

August 20, 2003

File 344:Chinese Patents Abs Aug 1985-2003/Mar  
(c) 2003 European Patent Office  
File 347:JAPIO Oct 1976-2003/Apr(Updated 030804)  
(c) 2003 JPO & JAPIO  
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200353  
(c) 2003 Thomson Derwent

Set	Items	Description
S1	144632	TELEPRESENCE? OR (VIRTUAL? OR ARTIFICIAL OR AUGMENT?) () (ENGINEERING OR ENVIRONMENT? OR TOOL? OR WORLD?) OR VIR OR VR OR VRML OR AR OR SIMULATOR OR SIMULATION OR CAVE OR STEREOSCOP? - OR TELEROBOT? OR UT
S2	253235	INTERNET? OR INTRANET? OR EXTRANET? OR WEB OR WEBSITE? OR - WEBPAGE? OR NET OR PORTAL? OR CYBERSPACE?
S3	689228	TELEOPERAT? OR OPERATOR? OR USER? OR PATRON? OR M?N OR WOM-?N OR ENDUSER? OR CLIENT?
S4	12931	HEADSET? OR HEAD()MOUNTED()DISPLAY OR HMD OR HEAD() (SET? OR TRACK?) OR HELMET?
S5	4317800	CONTROL? OR MANIPULAT? OR GOVERN? OR MASTER? OR COMMAND? OR AUTHORITY OR DOMINAT? OR RULE? OR REIGN? OR HANDL?
S6	4135703	MOVE? OR MOVING OR ACTIV? OR 6DOF OR 3DOF OR (SIX OR 6 OR - THREE OR 3) ()DEGREES()OF()FREEDOM OR ROTAT? OR MANEUVER?
S7	1382157	ELSEWHERE OR ELSE()WHERE OR REMOTE OR APART OR DISTAN? OR - FAR()OFF OR FAR()AWAY OR OFF()LYING OR OFF()SITE? OR OFFSITE? OR OUT()LYING OR REMOVED OR (ANOTHER OR OTHER OR DIFFERENT) (2- W) (LOCATION? OR SITE? OR PLACE?) OR OUTLYING
S8	102	S1 AND S3 AND S4
S9	41	S8 AND S6
S10	6	S7 AND S9
S11	5780	S3(5N)S5(5N)S6
S12	122	S11 AND S1
S13	7	S12 AND S4
S14	7	S13 NOT S10
S15	1	S12 AND S2
S16	1	S15 NOT (S14 OR S10)
S17	36	S11 AND S4
S18	29	S17 NOT (S16 OR S14 OR S10)
S19	9	S12 AND IC=G09G-005/00
S20	8	S19 NOT (S18 OR S16 OR S14 OR S10)
S21	14	S8 AND IC=G09G-005/00
S22	12	S21 NOT (S20 OR S18 OR S16 OR S14 OR S10)
S23	5199	S5(3N)S6(3N)S7
S24	8	S23 AND S4
S25	37	S23 AND S1
S26	0	S25 AND S4

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10/5/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014013528 \*\*Image available\*\*  
WPI Acc No: 2001-497742/200155  
XRPX Acc No: N01-368820

Virtual reality transmission system, relaying scene perceived by e.g.  
robot or telechir to operator, includes stereoscopic camera pair  
turning in sympathy with operators head movement  
Patent Assignee: TSCHERSICH A H (TSCH-I); ZUBKE F (ZUBK-I)  
Inventor: TSCHERSICH A H; ZUBKE F  
Number of Countries: 001 Number of Patents: 001  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
DE 19906244 A1 20000824 DE 1006244 A 19990215 200155 B

Priority Applications (No Type Date): DE 1006244 A 19990215  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
DE 19906244 A1 4 H04N-013/00

Abstract (Basic): DE 19906244 A1

NOVELTY - Integral stereoscopic cameras (1) are coupled through a  
transmission unit (2) to a projector (3) for each of the operators  
eyes (4). Projectors are integrated into a headset (5) such that with  
head (6) movement, eye focus remains constant. Movements of the  
operators head are transmitted synchronously to the cameras, hence  
training their view in the corresponding direction.

USE - A widely-applicable remote viewing system improving control  
of e.g. robots, providing virtual reality information to the operator

ADVANTAGE - The system is versatile; any automotive system: on  
land, in or under the sea or in the air, can benefit. Military-,  
surveying-, prospecting, nuclear-, aerospace-, medicinal- and material  
testing applications are cited. A reference to enhanced game play is  
included. Remote control of model aircraft provides an example of how  
reality and controllability can be dramatically enhanced for the  
operator, by providing a stereoscopic view in any desired direction,  
from the cockpit. Stereo microphones can be included for further  
enhancement of perception.

DESCRIPTION OF DRAWING(S) - A block schematic diagram is presented.  
Integral stereoscopic cameras (1)  
transmission unit (2)  
projector (3)  
operators eyes (4)  
headset (5)  
head (6)  
pp; 4 DwgNo 1/1

Title Terms: VIRTUAL; TRANSMISSION; SYSTEM; RELAY; SCENE; PERCEPTION; ROBOT  
; OPERATE; STEREOSCOPIC ; CAMERA; PAIR; TURN; OPERATE; HEAD; MOVEMENT  
Derwent Class: W02; W04  
International Patent Class (Main): H04N-013/00  
International Patent Class (Additional): H04R-005/033  
File Segment: EPI

10/5/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013662422 \*\*Image available\*\*  
WPI Acc No: 2001-146634/200115  
XRPX Acc No: N01-107339

Telepresence system for remote controlled robotic system receives

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operator commands in zone structure over wireless communication link  
such that input devices are configured to control telepresence devices

Patent Assignee: BECHTEL BWXT IDAHO LLC (BECH-N)  
Inventor: ANDERSON M O; KINOSHITA R A; WILLIS W D  
Number of Countries: 089 Number of Patents: 002  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200060868	A1	20001012	WO 2000US8921	A	20000404	200115 B
AU 200040698	A	20001023	AU 200040698	A	20000404	200115

Priority Applications (No Type Date): US 99127826 P 19990405

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 200060868	A1	E	26 H04N-007/18	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN  
CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE  
SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200040698 A H04N-007/18 Based on patent WO 200060868

Abstract (Basic): WO 200060868 A1

NOVELTY - The input device (22) inputs raw data of operator commands to computer (31) which processes the raw data into zone structure representative of operator commands. Operator commands in zone structure are received by telepresence devices which provide visual representation of operating environment, over wireless communication link (40), such that input devices are configured to control telepresence devices.

DETAILED DESCRIPTION - The input devices are headset (24), keyboard (30), mouse (28) and joystick (26). The telepresence devices are stereo camera set (62), zoom camera (64), pan and tilt devices (66,68), slider bar (70) and robot (72). INDEPENDENT CLAIMS are also included for the following:

- (a) a telepresence device controlling method;
- (b) a program for a telepresence device controlling method;
- (c) and a telepresence system configuring method.

USE - For remote -controlled robotic system used for nuclear reactors, medical procedures, underwater activities, and security or surveillance system.

ADVANTAGE - The interface of telepresence system and operator is simplified to provide modular, reconfigurable system. As raw data of input devices are converted to zone structure, any input device is easily capable of controlling any telepresence device. It is also possible for single input device to control multiple telepresence devices.

DESCRIPTION OF DRAWING(S) - The figure shows the detailed block diagram of telepresence system.

Input device (22)  
Headset (24)  
Joystick (26)  
Mouse (28)  
Keyboard (30)  
Computer (31)  
Wireless communication link (40)  
Stereo camera set (62)  
Zoom camera (64)  
Pan and tilt devices (66,68)  
Slider bar (70)  
Robot (72)

pp; 26 DwgNo 2/3

Title Terms: SYSTEM; REMOTE ; CONTROL; ROBOT; SYSTEM; RECEIVE; OPERATE;  
COMMAND; ZONE; STRUCTURE; WIRELESS; COMMUNICATE; LINK; INPUT; DEVICE;  
CONFIGURATION; CONTROL; DEVICE

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Derwent Class: S05; T06; W02; W05; X25  
International Patent Class (Main): H04N-007/18  
File Segment: EPI

10/5/3 (Item 3 from file: 350)  
DIALOG(R) File 350: Derwent WPIX  
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013119562

WPI Acc No: 2000-291433/200025

XRPX Acc No: N00-218487

**Device for simulation of visual orientation of pilot**

Patent Assignee: TEST FLIGHT INST (TEST-R)

Inventor: KABACHINSKII V V; KALININ YU I; SAPARINA T P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
RU 2128860	C1	19990410	RU 97103115	A	19970304	200025 B

Priority Applications (No Type Date): RU 97103115 A 19970304

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
RU 2128860	C1		G09B-009/08	

Abstract (Basic): RU 2128860 C1

NOVELTY - Device has virtual **helmet** with system of color stereo image with liquid- crystal matrices, semi-transparent reflectors and video mixers, system of stereo sounds with built-in microphone and head phones, receptor units which are mounted in gloves, jackboots (knee caps), jacket (armored jacket), which are equipped with **movement** detectors, tension detectors and electric drives. In addition device has microcomputer for processing signals from receptor devices, training set cockpit with seat, instrument board, control handles, calculator of flight parameters, and calculator of navigation system, board of trainer. In addition device has system for measuring angles of **operator 's head rotation** with phase-sensitive detector, sight detector with TV camera and blinking detector, liquid-crystal masks with control unit, video script unit, segmentation unit, non- linear editing unit, character generator, image generator, photodetector unit, unit which measures **distance** between eye pupils, unit for measuring sight turns.

USE - Aircraft training equipment.

ADVANTAGE - Increased fidelity of scale, increased fidelity of simulations of aircraft flight for manual visual control of pilot, improved quality and increased speed of training of pilots.

pp; 0 DwgNo 0/0

Title Terms: DEVICE; SIMULATE; VISUAL; ORIENT; PILOT

Derwent Class: P85; S05; W04; W06

International Patent Class (Main): G09B-009/08

File Segment: EPI; EngPI

10/5/4 (Item 4 from file: 350)  
DIALOG(R) File 350: Derwent WPIX  
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010765368 \*\*Image available\*\*

WPI Acc No: 1996-262322/199627

Related WPI Acc No: 2000-015968; 2000-041690

XRPX Acc No: N96-220662

**Head mounted display - transmits outside light and displayed images with visor moved to cover display to block outside light**

Patent Assignee: SEGA ENTERPRISES KK (SEGA-N)

Inventor: TOSAKI K; TOZAKI K

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Number of Countries: 004 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2295938	A	19960612	GB 9525203	A	19951208	199627 B
JP 8160348	A	19960621	JP 94306723	A	19941209	199635
JP 8160349	A	19960621	JP 94306724	A	19941209	199635
TW 275590	A	19960511	TW 95103870	A	19950419	199635
US 5844530	A	19981201	US 95568824	A	19951207	199904
GB 2295938	B	20000223	GB 9525203	A	19951208	200013

Priority Applications (No Type Date): JP 94306724 A 19941209; JP 94306723 A 19941209

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2295938	A		98	G02B-027/01	
JP 8160348	A		14	G02B-027/02	
JP 8160349	A		15	G02B-027/02	
GB 2295938	B			G02B-027/01	
TW 275590	A			A63F-009/24	
US 5844530	A			G09G-005/00	

Abstract (Basic): GB 2295938 A

The **head mounted display (HMD)** has a visor (80) movable to an open position to view the external environment during image viewing. It is closed to reduce the outside light entering the display. The images are projected on the display (2). The display has a right side (2R) and a left side display to reproduce **stereoscopic** images. A backlight supplies light to the displays.

The display is inclined downward to the **user's** line of sight to reduce eye fatigue. Focus is adjustable by varying the **distance** between the LCD and lens block. Outside light passes through the visor and lens block which has clear covers. The surrounding environment appears as a faint outline as luminous energy is reduced as light passes through the visor and covers.

USE/ADVANTAGE - For virtual reality games, simulate building interior. Can view images and external environment without removing appts. from head, reduced **user** fatigue, produces consistently focussed images.

Dwg.1/33

Title Terms: HEAD; MOUNT; DISPLAY; TRANSMIT; LIGHT; DISPLAY; IMAGE; VISOR; MOVE ; COVER; DISPLAY; BLOCK; LIGHT

Derwent Class: P36; P81; P85; T04; U14; W03; W04

International Patent Class (Main): A63F-009/24; G02B-027/01; G02B-027/02; G09G-005/00

International Patent Class (Additional): G02F-001/13; H04N-005/64

File Segment: EPI; EngPI

10/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009376003 \*\*Image available\*\*

WPI Acc No: 1993-069481/199309

XRFX Acc No: N93-053366

**Eye-slaved panoramic display system** for e.g. remote piloting and telerobotics - comprises head position and eye position tracking devices which in combination enable operator's foveal line of sight to be determined

Patent Assignee: BRITISH AEROSPACE PLC (BRAX )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2259213	A	19930303	GB 9118513	A	19910829	199309 B

August 20, 2003

Priority Applications (No Type Date): GB 9118513 A 19910829

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
GB 2259213 A 21 G09B-009/32

Abstract (Basic): GB 2259213 A

The system includes a device for dividing an operator's field of view into a first field containing the operator's foveal line of sight and a second field outside the first. A projection device projects a high resolution display within the first field and a low resolution display within the second field. One or more active matrix LCD arrays project the displays.

The system also includes an eyeshield of an operator's helmet onto which the high resolution display is projectable and a remote surface, such as the inside surface of an aircraft canopy, onto which the low resolution display is projectable. A high resolution display projector presents an image alternately to the left and right eye of the operator to give a stereo image. An LCD shutter is located at or near a source of the image and passive polarisers before an operator's eyes.

USE/ADVANTAGE - For applications that require remote or synthetic visual contact with environment, e.g. vehicle control and simulation. Capable of providing suitably sharp stereoscopic image with large general viewing area without impairment of image quantity or without over-stretching image generation/conversion systems.

Dwg.1/6

Title Terms: EYE; SLAVE; PANORAMIC; DISPLAY; SYSTEM; REMOTE; PILOT; COMPRISE; HEAD; POSITION; EYE; POSITION; TRACK; DEVICE; COMBINATION; ENABLE; OPERATE; FOVEAL; LINE; SIGHT; DETERMINE

Index Terms/Additional Words: SIMULATION; VEHICLE; CONTROL

Derwent Class: P85; Q25; W04; W06

International Patent Class (Main): G09B-009/32

International Patent Class (Additional): B64D-047/08; G09B-009/02

File Segment: EPI; EngPI

10/5/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008866881 \*\*Image available\*\*

WPI Acc No: 1991-370907/199151

XRPX Acc No: N91-283980

Wide angle image display - comprises helmet with image forming screens for flight simulator and dome-shaped screen to display peripheral image

Patent Assignee: THOMSON CSF (CSFC); LACROIX M A (LACR-I)

Inventor: HENIQUE M; LACROIX M

Number of Countries: 009 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 461942	A	19911218	EP 91401211	A	19910507	199151 B
FR 2662838	A	19911206				199208
CA 2043622	A	19911202				199209
US 5134521	A	19920728	US 91708284	A	19910531	199233
EP 461942	B1	19940720	EP 91401211	A	19910507	199428
DE 69102946	E	19940825	DE 602946	A	19910507	199433
			EP 91401211	A	19910507	

Priority Applications (No Type Date): FR 906872 A 19900601

Cited Patents: 1.Jnl.Ref; EP 358559; GB 2039468; US 4234891; US 4348185; US 4439157; US 4743200

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 461942 A

Designated States (Regional): CH DE ES FR GB IT LI

August 20, 2003

US 5134521 A 6 G02B-027/10  
EP 461942 B1 F 8 G09B-009/32  
Designated States (Regional): CH DE ES FR GB IT LI  
DE 69102946 E G09B-009/32 Based on patent EP 461942

Abstract (Basic): EP 461942 A

The wide angle viewing system includes an system for collimating at infinity, comprising a mirror (15) and a spherical screen (13) supported on a **helmet** worn by the viewer. The mirror and screen are supported a short **distance** in front of the viewer's eyes, and are supplied with an image from a source (6).

The source is connected to an image generator by means of optical fibres. The system also includes detectors sensing the position of the head of the **user** in order to control the image accordingly. There is also a dome-shaped screen at a **distance** of 1.5-2m from the viewer in order to display the peripheral image.

USE - Image formation in aircraft flight **simulation** . (8pp  
Dwg.No.4/5)

Title Terms: WIDE; ANGLE; IMAGE; DISPLAY; COMPRISE; **HELMET** ; IMAGE;  
FORMING; SCREEN; FLIGHT; SIMULATE; DOME; SHAPE; SCREEN; DISPLAY;  
PERIPHERAL; IMAGE

Derwent Class: P81; P82; P85; W04; W06

International Patent Class (Main): G02B-027/10; G09B-009/32

International Patent Class (Additional): G03B-021/10; G09B-009/08

File Segment: EPI; EngPI

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14/5/1 (Item 1 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
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014770381 \*\*Image available\*\*  
WPI Acc No: 2002-591085/200263  
Related WPI Acc No: 2003-091084  
XRPX Acc No: N02-468986

Presenting virtual simulation for permitting user to manipulate real  
objects by interacting with virtual object by determining non-haptically  
from sensed data user intended movement of image of control

Patent Assignee: CANESTA INC (CANE-N)

Inventor: BAMJI C; RAFII A; SZE C

Number of Countries: 098 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200263601	A1	20020815	WO 2002US3433	A	20020205	200263 B

Priority Applications (No Type Date): US 2001777778 A 20010205

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200263601 A1 E 35 G09G-005/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZM  
ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

Abstract (Basic): WO 200263601 A1

NOVELTY - A display is generated including an image of a control to  
change a parameter of a device. Axes proximity (x,y,z) of a user to  
the image on the display are sensed. User intended movement of the  
image of a control (130B) is non-haptically determined from sensed  
data. A signal may be passed to an actual device to control the  
parameter as a function of sensed user intended movement of the  
image of the control.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for:

(a) a virtual simulation system

USE - For creating simulations using 3D acquired data so as to  
appear immerse the user in what is being simulated, and to permit the  
user to manipulate real objects by interacting with a virtual object.

ADVANTAGE - Convenient to users, without regard to where physical  
thermostats (or other controls) may actually have been installed. In a  
factory training application, the user may view an actual object being  
remotely manipulated as a function of user movement, or may view  
a virtual image that is manipulated as a function of user movement  
, which system-detected movement causes an action object to be moved  
. The present invention may also be used to implement training systems.  
Presents virtual images that a user can interact with to control actual  
devices. Onlookers may see what is occurring in that the user is not  
required to wear sensor-equipped clothing, helmets, gloves, or  
goggles.

DESCRIPTION OF DRAWING(S) - The drawing shows clipping planes used  
to detect user proximity to virtual images displayed by the present  
invention.

pp; 35 DwgNo 2b/5

Title Terms: PRESENT; VIRTUAL; SIMULATE; PERMIT; USER; MANIPULATE; REAL;  
OBJECT; INTERACT; VIRTUAL; OBJECT; DETERMINE; NON; SENSE; DATA; USER;  
INTENDED; MOVEMENT; IMAGE; CONTROL

Derwent Class:- P82; P85; S02; T01

International Patent Class (Main): G09G-005/00

International Patent Class (Additional): G03B-021/00; G09G-005/08

File Segment: EPI; EngPI



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14/5/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014680834 \*\*Image available\*\*

WPI Acc No: 2002-501538/200254

XRPX Acc No: N02-396970

**Visual display of objects in field of view for man-machine communication  
by acquiring information input by user using signal or pattern  
recognition**

Patent Assignee: SIEMENS AG (SIEI )

Inventor: FEIL H

Number of Countries: 021 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 10056291	A1	20020523	DE 1056291	A	20001114	200254 B
WO 200241069	A1	20020523	WO 2001DE4267	A	20011114	200254

Priority Applications (No Type Date): DE 1056291 A 20001114

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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DE 10056291	A1		13	G06F-003/00	
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WO 200241069	A1	G		G02B-027/01	
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Designated States (National): CN US

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU

MC NL PT SE TR

Abstract (Basic): DE 10056291 A1

NOVELTY - The method involves manipulating the characteristics and/or actions of at least one displayed object using interactive control commands from a user, detected using sensors etc. The user may be able to navigate in a displayed screen. The information input by the user is acquired and processed using signal- or pattern recognition. No additional manually operable mechanical or touch-sensitive hardware devices are required for input of control commands. A virtual retinal display or head - mounted display may be used to display a virtual environment.

USE - E.g. for developing virtual prototypes in the automobile industry, for interactive demonstrations in education, driving or flight training etc.

ADVANTAGE - The user can actively control virtual objects, using the present skills of the user for transmitting information.

DESCRIPTION OF DRAWING(S) - The drawing shows a virtual retinal display.

pp; 13 DwgNo 2/5

Title Terms: VISUAL; DISPLAY; OBJECT; FIELD; VIEW; MAN; MACHINE;  
COMMUNICATE; ACQUIRE; INFORMATION; INPUT; USER; SIGNAL; PATTERN;  
RECOGNISE

Derwent Class: P81; S05; T01; T04

International Patent Class (Main): G02B-027/01; G06F-003/00

File Segment: EPI; EngPI

14/5/3 (Item 3 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014267347 \*\*Image available\*\*

WPI Acc No: 2002-088045/200212

**Virtual musical performance device using sensor and method thereof**

Patent Assignee: POSTECH FOUND (POST-N); UNIV POHANG SCI & TECHNOLOGY  
(UYPO-N)

Inventor: AHN U J; HWANG J I; KIM J H

August 20, 2003

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
KR 2001076489	A	20010816	KR 20003667	A	20000126	200212 B
KR 312750	B	20011103	KR 20003667	A	20000126	200240

Priority Applications (No Type Date): KR 20003667 A 20000126

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
KR 2001076489	A		1	G10H-005/00	
KR 312750	B			G10H-005/00	Previous Publ. patent KR 2001076489

Abstract (Basic): KR 2001076489 A

NOVELTY - A virtual musical performance device using a sensor and a method thereof are provided to playing a pertinent music easily by outputting an accompaniment automatically according to tapping of a user to a melody of the pertinent music, and to increase an interest of the user by visualizing a tempo, a volume, and a height of tone.

DETAILED DESCRIPTION - A virtual musical performance device includes a memory(18), a selection part(10), a tap sensor(12), a data glove(16), a head track sensor(14), a display part(28), a graphic control part(26), a musical performance part(22), and a central control part(20). The memory(18) stores melody data of music. The selection part(10) is for selecting a wanted music among the music stored at the memory(18). The tap sensor(12) senses a tempo and a strength of tap generated by movement of the user's fingers. The data glove(16) is for controlling the tempo and a volume of an output music. The head track sensor(14) senses movement of the user's head. The display part(28) displays three-dimensional graphic according to a varying view point of the user on the basis of a head location information of the head track sensor(14). The graphic control part(26) displays objects representing the tempo and the volume according to tapping of the user stereoscopically through a display device such as an HMD ( Head Mounted Display ). The musical performance part(22) outputs midi sound of a selected music according to a tap signal of the tap sensor(12). The central control part(20) reads selected music data from the memory(18) by receiving a selection signal, and outputs the selected music data to the musical performance part(22), and controls the musical performance part(22) and the graphic control part(26).

pp; 1 DwgNo 1/10

Title Terms: VIRTUAL; MUSIC; PERFORMANCE; DEVICE; SENSE; METHOD

Derwent Class: P86; W04

International Patent Class (Main): G10H-005/00

File Segment: EPI; EngPI

14/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014096350. \*\*Image available\*\*

WPI Acc No: 2001-580564/200165

XRPX Acc No: N01-432338

Virtual model manipulation for modeling purposes, involves associating views of three-dimensional model with position of screen

Patent Assignee: SOFT TECH NZ LTD (SOFT-N); WILSON J A (WILS-I)

Inventor: WILSON J A

Number of Countries: 094 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200113337	A1	20010222	WO 2000NZ145	A	20000802	200165 B
AU 200063267	A	20010313	AU 200063267	A	20000802	200165
NZ 516991	A	20020927	NZ 516991	A	20000802	200272
			WO 2000NZ145	A	20000802	

August 20, 2003

Priority Applications (No Type Date): NZ 337027 A 19990802

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200113337 A1 E 19 G06T-017/40

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200063267 A G06T-017/40 Based on patent WO 200113337

NZ 516991 A G06T-017/40 Based on patent WO 200113337

Abstract (Basic): WO 200113337 A1

NOVELTY - A screen (2) is provided, in which different orientation and views of three-dimensional model is displayed. The displayed views are associated with the position of visual display device.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for virtual model manipulation system.

USE - For modeling purposes in medicine, civil applications and mathematical applications.

ADVANTAGE - High degree of latency, poor stereoscopic vision due to VR helmets are prevented by virtual model manipulation. The need for moving user's head to select a reference point is not required due to virtual model manipulation.

DESCRIPTION OF DRAWING(S) - The figure shows the virtual model manipulation system.

Screen (2)

pp; 19 DwgNo 1/1

Title Terms: VIRTUAL; MODEL; MANIPULATE; PURPOSE; ASSOCIATE; VIEW; THREE;

DIMENSION; MODEL; POSITION; SCREEN

Derwent Class: P36; S05; T01; W02; W04

International Patent Class (Main): G06T-017/40

International Patent Class (Additional): A63F-013/00; G06F-017/50

File Segment: EPI; EngPI

14/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2003 Thomson Derwent. All rts. reserv.

012088506 \*\*Image available\*\*

WPI Acc No: 1998-505417/199843

XRPX Acc No: N98-393976

Robotic force simulation apparatus for e.g. flying training simulation

- has translational robotic positional mechanism for control button  
mechanism movement across full co-ordinates of users simulated field  
of view

Patent.Assignee: CGSD CORP (CGSD-N)

Inventor: LATHAM R W

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5803738	A	19980908	US 94264924	A	19940624	199843 B
			US 96692422	A	19960805	

Priority Applications (No Type Date): US 94264924 A 19940624; US 96692422 A 19960805

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 5803738 A 10 G09B-009/02 Cont of application US 94264924

Abstract (Basic): US 5803738 A

The virtual reality system is operated by a user wearing a head mounted display [20] that presents an image [10] of a cockpit environment with controls, cockpit displays and exterior view. The user

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wears a data glove [16] and a tracker [18] that determines the position of a user's hand.

The control switches for the cockpit are represented by a single bank of switches [12] supported on a robotic positioning frame. A multi-channel motor controller controls the positioning of the switch bank by using continual loop commands and feedback during the operation of the **simulator**. The device moves to follow the position of the hand and future button activation positioning is based on extrapolation. The system may also use fixed control items such as a joystick.

USE- Simulations for entertainment and training purposes.

ADVANTAGE- Presence of physical controls adds realism and correct force sensations for the duration of the **simulation**. Positioning is immediate, tracking the hand location, therefore minimising the structural configuration and maximising possible **simulation** scenarios.

Dwg.1/5

Title Terms: ROBOT; FORCE; SIMULATE; APPARATUS; FLYING; TRAINING; SIMULATE;  
TRANSLATION; ROBOT; POSITION; MECHANISM; CONTROL; BUTTON; MECHANISM;  
MOVEMENT; FULL; CO; ORDINATE; USER; SIMULATE; FIELD; VIEW  
Derwent Class:- P85; T01; W06  
International Patent Class (Main): G09B-009/02  
International Patent Class (Additional): G09B-019/16  
File Segment: EPI; EngPI

14/5/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011154485 \*\*Image available\*\*

WPI Acc No: 1997-132409/199712

XRPX Acc No: N97-109334

Surrounding of user in virtual reality - includes rotation of spherical casing enclosing user according to displacement of centre of gravity of user relative to centre and use of helmet to form virtual space

Patent Assignee: LATYPOV N N (LATY-I)

Inventor: LATYPOV N N

Number of Countries: 067 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9703740	A1	19970206	WO 96RU183	A	19960624	199712 B
AU 9665373	A	19970218	AU 9665373	A	19960624	199723
EP 839559	A1	19980506	EP 96925204	A	19960624	199822
			WO 96RU183	A	19960624	
RU 2109336	C1	19980420	RU 95113085	A	19950714	199847
CN 1193394	A	19980916	CN 96196308	A	19960624	199905
US 5846134	A	19981208	US 96678706	A	19960711	199905
JP 11509446	W	19990824	WO 96RU183	A	19960624	199944
			JP 97506589	A	19960624	
KR 99028962	A	19990415	WO 96RU183	A	19960624	200027
			KR 98700264	A	19980114	

Priority Applications (No Type Date): RU 95113085 A 19950714

Cited Patents: EP 691146; US 4710129; US 4856771; WO 9316776; WO 9606664

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9703740 A1 R 25 A63F-009/22

Designated States (National): AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE  
DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN  
MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TR TT UA UG US UZ VN

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC  
NL PT SE

KR 99028962 A G06F-019/00 Based on patent WO 9703740

AU 9665373 A A63F-009/22 Based on patent WO 9703740

EP 839559 A1 E 12 A63F-009/22 Based on patent WO 9703740

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Designated States (Regional): CH DE ES FI FR GB GR IE IT LI MC NL PT SE  
JP 11509446 W 21 A63G-031/02 Based on patent WO 9703740  
RU 2109336 C1 G06F-019/00  
CN 1193394 A G06F-019/00  
US 5846134 A A63G-031/16

Abstract (Basic): WO 9703740 A

The virtual reality environment apparatus includes a closed covering (4) is formed enclosing an actual closed space on a bearing device (5) with a rotation capability about its own axis while a user (3) can move freely on the inner surface of the casing. A virtual space is formed using a computer in which houses, trees, machines, animals, people, clouds etc. are formed and moved by assigned and random rule. The formed virtual space is displayed on the screen of a helmet (2) of the user, observing a 3-dimensional image of a virtual world.

Because the user does not see the edges of the screen, an illusion of complete presence of a 3-dimensional space is formed. The magnitude and direction of movement of the user is determined relative to the casing, to control the continuous conversion of the virtual space and the display to the user. The casing is rotated during movement of the centre of gravity of the user, to change the virtual image. The casing can be turned by a device (18) acting on a support (6), to imitate movement in a vehicle, aircraft etc. so that a sensation of actual movement is obtd. according to change of the displayed virtual space.

USE/ADVANTAGE - Training of military, sportsmen and other specialists, ie. police using computer virtual space. More complete immersion of user in virtual reality.

Dwg.1/9

Title Terms: SURROUND; USER; VIRTUAL; ROTATING; SPHERE; CASING; ENCLOSE;  
USER; ACCORD; DISPLACEMENT; CENTRE; GRAVITY; USER; RELATIVE; CENTRE;  
HELMET ; FORM; VIRTUAL; SPACE

Derwent Class: P36; P85; T01

International Patent Class (Main): A63G-031/16; G06F-019/00

International Patent Class (Additional): A63B-069/00; A63F-009/22;

A63G-031/00; A63G-031/02; G06F-161-00; G09B-009/00

File Segment: EPI; EngPI

14/5/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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003248843

WPI Acc No: 1982-A6230E/198203

Setting mechanism for bio-technical robot - has chair and control panel  
on sliding platform, whose position is monitored by sensor

Patent Assignee: GORELOV L V (GORE-I)

Inventor: NOSOV V V

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 818855	B	19810506				198203 B

Priority Applications (No Type Date): SU 2716309 A 19781127

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 818855	B		2		

Abstract (Basic): SU 818855 B

Device contains base (1), manipulators control members (2), stereoscopic video control unit (3), operator's helmet (4), helmet's orientation sensors (5), control panel for control of displacement (6) and armchair (7). It also has platform (8) and carrier (9) with displacement sensor (10). Drawing also shows operator (11), carrier guides (13) and platform displacement mechanism (14).

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Using his feet operator (11) controls displacements of platform (8) and movements of robot. By rotation and translation forward- backwards of his body, operator (11) performs rotation, tilt and optical scanning of robot's television camera. Supervision of robot, action is performed through screens of stereoscopic video control unit (3). Bul.13/7.4.81.

Dwg.1

Title Terms: SET; MECHANISM; BIO; TECHNICAL; ROBOT; CHAIR; CONTROL; PANEL;  
SLIDE; PLATFORM; POSITION; MONITOR; SENSE

Derwent Class: P62; T06

International Patent Class (Additional): B25J-011/00

File Segment: EPI; EngPI.

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16/5/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014141778 \*\*Image available\*\*

WPI Acc No: 2001-625989/200172

XRPX Acc No: N01-466656

On-line shopping simulation method in virtual reality system, involves displaying interactive three-dimensional view along with map showing layout of interior of store simultaneously

Patent Assignee: RICHFX LTD (RICH-N)

Inventor: BEN-KIKI T; KERRET T; MANN Y; MONSA A; VARDI J

Number of Countries: 096 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200169364	A2	20010920	WO 2001IL226	A	20010308	200172 B
AU 200139518	A	20010924	AU 200139518	A	20010308	200208
EP 1261906	A2	20021204	EP 2001914143	A	20010308	200280
			WO 2001IL226	A	20010308	
KR 2002084148	A	20021104	KR 2002711060	A	20020823	200320

Priority Applications (No Type Date): US 2000524453 A 20000310

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200169364 A2 E 59 G06F-003/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS  
JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL  
PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200139518 A G06F-003/00 Based on patent WO 200169364

EP 1261906 A2 E G06F-003/00 Based on patent WO 200169364

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

KR 2002084148 A G06F-017/60

Abstract (Basic): WO 200169364 A2

NOVELTY - An interactive three-dimensional view is displayed on a client display containing three-dimensional views of interior of a virtual store through which the user navigates. A map showing layout of the interior of the store, is displayed simultaneously.

USE - For on-line shopping **simulation** in virtual reality system.

ADVANTAGE - By provision of virtual reality system, users may interact with three-dimensional environments using natural user interface, **Internet** or other communication network. Allows **user** to **control** the direction of one's own **movement**, speed of **movement**, etc., and allows to carefully inspect a product before purchase.

DESCRIPTION OF DRAWING(S) - The figure shows the flowchart explaining the operation of the virtual reality shopping system.

pp; 59 DwgNo 1/15

Title Terms: LINE; SHOPPING; SIMULATE; METHOD; VIRTUAL; SYSTEM; DISPLAY;  
INTERACT; THREE; DIMENSION; VIEW; MAP; LAYOUT; INTERIOR; STORAGE;  
SIMULTANEOUS

Derwent Class: T01; T05

International Patent Class (Main): G06F-003/00; G06F-017/60

File Segment: EPI

August 20, 2003

18/5/1 (Item 1 from file: 347)  
DIALOG(R)File 347:JAPIO  
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06219629 \*\*Image available\*\*  
HEAD MOUNTED DISPLAY DEVICE

PUB. NO.: 11-161190 [JP 11161190 A]  
PUBLISHED: June 18, 1999 (19990618)  
INVENTOR(s): KARASAWA JIYOUJI  
KAMAKURA HIROSHI  
APPLICANT(s): SEIKO EPSON CORP  
APPL. NO.: 09-340526 [JP 97340526]  
FILED: November 25, 1997 (19971125)  
INTL CLASS: G09F-009/00

ABSTRACT

PROBLEM TO BE SOLVED: To control the display of information by easily detecting the movement of the user using a head mounted display device.

SOLUTION: A movement detecting section 146 detects the movement of the head of the user (a rotational or a linear motion) based on the output of a sensor 120. A display control section 148 controls the information display to an image display element 112 through a display driving section 144 based on the detection result outputted from the section 146. If the detection result exceeds a first threshold value, the display of information is stopped. When the result becomes less than a second threshold value, that is less than the first threshold value, the display of the information is restarted. If the detection result is located between third and fourth threshold values, the display portion of the information is moved on the screen surface of the element 112 in accordance with the movement of the user. If the detection result exceeds the fourth threshold value, the display of the information is stopped.

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18/5/2 (Item 2 from file: 347)  
DIALOG(R)File 347:JAPIO  
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05988389 \*\*Image available\*\*  
REMOTE MONITORING DEVICE

PUB. NO.: 10-271489 [JP 10271489 A]  
PUBLISHED: October 09, 1998 (19981009)  
INVENTOR(s): KATO YASUYUKI  
ONOE YUTAKA  
SUGITA NAOHIKO  
APPLICANT(s): SONY PRECISION TECHNOL INC [471348] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 09-073983 [JP 9773983]  
FILED: March 26, 1997 (19970326)  
INTL CLASS: [6] H04N-007/18; G08B-013/196; G08B-021/00; G08B-025/10;  
H04N-005/225  
JAPIO CLASS: 44.6 (COMMUNICATION -- Television); 44.2 (COMMUNICATION -- Transmission Systems); 44.4 (COMMUNICATION -- Telephone);  
44.9 (COMMUNICATION -- Other)  
JAPIO KEYWORD: R007 (ULTRASONIC WAVES); R011 (LIQUID CRYSTALS); R098  
(ELECTRONIC MATERIALS -- Charge Transfer Elements, CCD & BBD)  
; R101 (APPLIED ELECTRONICS -- Video Tape Recorders, VTR)

ABSTRACT

PROBLEM TO BE SOLVED: To enable speedy and efficient investigation, relief and search activities by providing a miniaturized monitor camera held by a



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contractible probe, a display and a means for radio communication of video signals.

SOLUTION: A CCD camera being a miniaturized camera for monitor 101 is attached onto a fixed stand together with an illumination light 102 and a microphone 103, and this fixed stand is attached through a rotating mechanism 104 to the top end of contractible probe 105. Near the root of the contractible probe 105, a control box 110 is freely rotatably attached. An operator wears a head mounted display 109. Further, inside the control box 110, a radio communication equipment 10 is provided and image signals picked up by the CCD camera 101 and audio signals collected by the microphone 103 are transmitted by radio. At a head office or the like, the signals are received by a receiver 20, a microphone 28 is provided for collecting sounds for instructions to the operator of this device and signals are transmitted by radio.

18/5/3 (Item 3 from file: 347)

DIALOG(R)File 347:JAPIO

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03107404 \*\*Image available\*\*

MECHANISM FOR VERTICALLY ADJUSTING HEAD REST

PUB. NO.: 02-082904 [JP 2082904 A]

PUBLISHED: March 23, 1990 (19900323)

INVENTOR(s): HARA SEIJI

APPLICANT(s): SHIROKI CORP [367851] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 63-235721 [JP 88235721]

FILED: September 20, 1988 (19880920)

INTL CLASS: [5] A47C-007/38

JAPIO CLASS: 30.4 (MISCELLANEOUS GOODS -- Furniture); 26.2 (TRANSPORTATION -- Motor Vehicles)

JOURNAL: Section: C, Section No. 728, Vol. 14, No. 275, Pg. 26, June 14, 1990 (19900614)

#### ABSTRACT

PURPOSE: To improve operability and enable non-stage adjustment by rotating an operating handle to inhibit a pinion from rotation on its own axis with a braking mechanism and rolling the pinion on a rack and rotatably engaging the rack vertically secured fixedly to a horizontal portion of a gate-type stay provided on the seat-back side.

CONSTITUTION: When an operating handle 27 provided on the head rest side is operated, a pinion 25 is rotated. A rack plate 16 meshing with the pinion 25 is secured fixedly to a stay 13 provided on the seat-back side, so that the pinion 25 rolls on the rack plate 16 to move the head rest vertically. If the operating handle 27 is released from the operating force, the head rest maintain its position since the rotation of the pinion 25 about its own axis is inhibited by a braking mechanism 18. Thus, the vertical adjustment of the head set can be carried out only by rotating the operating handle 27 while a user is seated on the seat and further fine adjustment is possible with non-stage.

18/5/4 (Item 4 from file: 347)

DIALOG(R)File 347:JAPIO

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01005314 \*\*Image available\*\*

REMOTE CONTROLLER

PUB. NO.: 57-155614 [JP 57155614 A]

PUBLISHED: September 25, 1982 (19820925)

August 20, 2003

INVENTOR(s): FUTAKI MASAO  
WATANABE ATSUO  
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP  
(Japan)  
APPL. NO.: 56-041559 [JP 8141559]  
FILED: March 20, 1981 (19810320)  
INTL CLASS: [3] G05D-003/00; B25J-009/00  
JAPIO CLASS: 22.3 (MACHINERY -- Control & Regulation); 26.9  
(TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES --  
Industrial Robots)  
JOURNAL: Section: P, Section No. 164, Vol. 06, No. 262, Pg. 11,  
December 21, 1982 (19821221)

#### ABSTRACT

PURPOSE: To attain remote control for both a slave arm mechanism and a monitor camera through an operator, by actuating a **master** arm mechanism and a camera **control** mechanism with the **movement** of **operator** 's hands, waist or head.

CONSTITUTION: A picture sent from a monitor camera is displayed at a monitor mechanism 12. An operator 15 gives the manual operation to a master arm mechanism 14 while looking at the mechanism 12 to give the remote **control** to a slave arm mechanism. Furthermore, the **operator** 15 turns or **moves** back and forth a chair 17, a camera controlling mechanism 16, with his waist while looking at the mechanism 12 to give the monitor control to the monitor camera through the turning or shifting. Thus the remote control is possible for both the slave arm mechanism and the monitor camera with just an operator. Furthermore the remote control can be given to the monitor camera with the movement of the head of the operator by means of a **helmet** containing a camera control mechanism.

18/5/5 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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015254868 \*\*Image available\*\*  
WPI Acc No: 2003-315797/200331  
XRPX Acc No: N03-251488

User interface provision method for remote control of domestic appliance, involves selecting action of virtual object by moving user's view and virtual object relative to selected visible object  
Patent Assignee: NOKIA CORP (OYNO ); HOISKO J (HOIS-I); KANGAS K J (KANG-I)

Inventor: HOISKO J; KANGAS K J  
Number of Countries: 027 Number of Patents: 003  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1271293	A2	20030102	EP 2002254470	A	20020626	200331 B
US 20030020707	A1	20030130	US 2002185542	A	20020627	200331
GB 2377147	A	20021231	GB 200115765	A	20010627	200331

Priority Applications (No Type Date): GB 200115765 A 20010627

#### Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 1271293	A2	E 10	G06F-003/00	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR				
US 20030020707	A1		G06T-001/00	
GB 2377147	A		G06F-003/00	

Abstract (Basic): EP 1271293 A2

NOVELTY - An object visible in the view of user's head - mounted display (10) is selected and a virtual object associated with an action is displayed for the user. The action is selected by moving the

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view and the virtual object relative to the selected object, such that the selected object and the virtual object become associated with each other.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for user interface.

USE - For designing user interface of augmented reality head mounted display (HMD) device, hand-held display of camera for remotely controlling device such as domestic appliance, office appliance, vending machine and entrance gate, from remote location using Bluetooth connectivity.

ADVANTAGE - The user is enabled to easily interact with real objects, and thus most desired effect is realized.

DESCRIPTION OF DRAWING(S) - The figure shows a user wearing a head-mounted display.

Head - mounted display (10)

pp; 10 DwgNo 1/5

Title Terms: USER; INTERFACE; PROVISION; METHOD; REMOTE; CONTROL; DOMESTIC;

APPLIANCE; SELECT; ACTION; VIRTUAL; OBJECT; MOVE; USER; VIEW; VIRTUAL;

OBJECT; RELATIVE; SELECT; VISIBLE; OBJECT

Derwent Class: T01; T04; W04

International Patent Class (Main): G06F-003/00; G06T-001/00

File Segment: EPI

18/5/6 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015148756 \*\*Image available\*\*

WPI Acc No: 2003-209283/200320

XRPX Acc No: N03-166809

Wearable control apparatus for PDA, computer, has physical link layer that receives user initiated signal from sensor provided in mounting frame attached to user's hand

Patent Assignee: DOYNOV P (DOYN-I); MIDWEST RES INST (MIDE )

Inventor: DOYNOV P

Number of Countries: 100 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020163495	A1	20021107	US 2001847083	A	20010502	200320 B
WO 200288918	A2	20021107	WO 2002US13645	A	20020502	200320

Priority Applications (No Type Date): US 2001847083 A 20010502

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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US 20020163495	A1		14	G09G-005/00	
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WO 200288918	A2 E			G06F-003/00	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

Abstract (Basic): US 20020163495 A1

NOVELTY - A physical link layer (PLL) (13) located remote from a mounting frame (11) attached to a user's hand, receives user initiated input signals from a sensor (14) provided in the mounting frame. The signals are processed for compatibility with an electronic device which is to be controlled. The processed signals are transmitted to the device for controlling its operation.

USE - Wearable control apparatus for implementing desired user commands on portable electronic devices such as computers, personal digital assistants (PDAs) in vehicles, and also applicable for head

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mounted display units (HMDs), wearable PC, and weather-proof smart glove used by astronauts, firefighters, divers, etc.

ADVANTAGE - Provides a control device with improved ergonomics and portability for ease of use with electronic devices. By using the sensors, the fatigue of the person wearing the device is reduced, as minimal physical movement is required to generate an input command, thereby the users are enabled to efficiently perform multiple tasks at one time.

DESCRIPTION OF DRAWING(S) - The figure shows a perspective view of the wearable interfacing control apparatus.

Mounting frame (11)

Physical link layer (13)

Sensor (14)

pp; 14 DwgNo 1/11

Title Terms: WEAR; CONTROL; APPARATUS; COMPUTER; PHYSICAL; LINK; LAYER;

RECEIVE; USER; INITIATE; SIGNAL; SENSE; MOUNT; FRAME; ATTACH; USER; HAND

Derwent Class: P85; T01; T04; W01

International Patent Class (Main): G06F-003/00; G09G-005/00

International Patent Class (Additional): G09G-005/08

File Segment: EPI; EngPI

18/5/7 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015113896 \*\*Image available\*\*

WPI Acc No: 2003-174416/200317

Related WPI Acc No: 2000-548076; 2001-069641; 2002-010210; 2002-237975;

2002-424498

XRFX Acc No: N03-137321

Computer interactive device for visually impaired person, receives acceleration data corresponding to user's head movements so as to provide magnified form of specific instantaneous viewport

Patent Assignee: ZWERN A L (ZWERN-I)

Inventor: ZWERN A L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020158815	A1	20021031	US 95563525	A	19951128	200317 B
			US 99235096	A	19990121	
			US 99373286	A	19990812	
			US 2001895576	A	20010628	
			US 2001895765	A	20010628	
			US 2002183181	A	20020625	

Priority Applications (No Type Date): US 95563525 A 19951128; US 99235096 A 19990121; US 99373286 A 19990812; US 2001895576 A 20010628; US 2001895765 A 20010628; US 2002183181 A 20020625

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020158815	A1		18	G09G-005/00	Cont of application US 95563525 Cont of application US 99235096 Cont of application US 99373286 Cont of application US 2001895576 Cont of application US 2001895765 Cont of patent US 6127990 Cont of patent US 6293155 Cont of patent US 6445364

Abstract (Basic): US 20020158815 A1

NOVELTY - A handheld computer with head mounted display unit (26), a head tracker (28) and an accelerometer, receives the acceleration data corresponding to the user's head movement. A signal processor produces a computer command so as to allow the user

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to position an instantaneous viewport provided by the display in a magnified form, in response to the acceleration data.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) an electronic device controller;
- (2) a portable electronic device control method; and
- (3) a computer game program control method.

USE - For visually impaired person for portable electronic game.

ADVANTAGE - Provides an intuitive computer display interface allowing the user to automatically achieve proper spatial orientation by directly coupling the user's head orientation to the displayed portion of a magnified virtual page.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the hardware components of a virtual computer networks.

Head mounted display unit (26)

Head tracker (28)

pp; 18 DwgNo 2/5

Title Terms: COMPUTER; INTERACT; DEVICE; VISUAL; IMPAIR; PERSON; RECEIVE; ACCELERATE; DATA; CORRESPOND; USER; HEAD; MOVEMENT; SO; MAGNIFY; FORM; SPECIFIC; INSTANT

Derwent Class: P85; S02; S05; T01; W04; W05

International Patent Class (Main): G09G-005/00

File Segment: EPI; EngPI

18/5/8 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015073403 \*\*Image available\*\*

WPI Acc No: 2003-133921/200313

XRPX Acc No: N03-106613

Image display system such as head mounted display , includes agent controller which controls display, so that moving direction of operator 's view point personified with displayed image, is observed

Patent Assignee: SHARP KK (SHAF )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2002366271	A	20021220	JP 2001178007	A	20010613	200313 B

Priority Applications (No Type Date): JP 2001178007 A 20010613

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2002366271	A		9	G06F-003/00	

Abstract (Basic): JP 2002366271 A

NOVELTY - A detector (3) detects the direction and amount of movement of an operators ' view point. A controller (4) specifies and displays a specific image on a display (6) based on the output of the detector. A agent controller (7) controls the display, so that the moving direction of operator 's view point personified with the displayed image, is observed.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for image display method.

USE - Image display system such as head mounted display ( HMD ).

ADVANTAGE - Suitable image among the images seen from multiple view point is exactly displayed to the user that the operator's view point is improved.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the image display system. (Drawing includes non-English language text).

Detector (3)

Controller (4)

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Display (6)  
Agent controller (7)  
pp; 9 DwgNo 1/6  
Title Terms: IMAGE; DISPLAY; SYSTEM; HEAD; MOUNT; DISPLAY; AGENT; CONTROL;  
CONTROL; DISPLAY; SO; MOVE; DIRECTION; OPERATE; VIEW; POINT; DISPLAY;  
IMAGE; OBSERVE  
Derwent Class: T01; T04  
International Patent Class (Main): G06F-003/00  
International Patent Class (Additional): G06F-003/033; G06F-003/16  
File Segment: EPI

18/5/9 (Item 5 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
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014560164 \*\*Image available\*\*  
WPI Acc No: 2002-380867/200241  
Related WPI Acc No: 2002-696758; 2002-706210; 2003-331253  
XRPX Acc No: N02-297932

Automatic scrolling control for computer screen, head - mounted  
display , involves activating scrolling according to gaze position within  
activated control region defined by concentric circles

Patent Assignee: HIETT J H (HIET-I); LEMELSON J H (LEME-I)

Inventor: HIETT J H; LEMELSON J H

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6351273	B1	20020226	US 97845958	A	19970430	200241 B

Priority Applications (No Type Date): US 97845958 A 19970430

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6351273	B1		32	G09G-005/34	

Abstract (Basic): US 6351273 B1

NOVELTY - Screen gaze position is located on the display or screen  
(12) and determined whether the gaze position is within static regions  
(318,320) and activated control regions (306,308,310) defined by  
different concentric circles. Scrolling is activated according to the  
gaze position within the activated control region to provide a desired  
information display, by scrolling the region at which the gaze is  
positioned, at a defined rate.

USE - For controlling automatic scrolling of information on  
displays, screens or monitors of computer interface system, other  
computer peripherals, head - tracking system, eye-tracking system,  
head-mounted screen or displays, transparent, non-attached displays or  
screens, display glasses used by technicians or assembly line workers,  
heads-up display of medical information for medical personnel and  
doctors, weather forecast personnel, air-traffic controllers, etc.

ADVANTAGE - Allows users to control rate of scrolling  
efficiently, without restricting or limiting the movement of user's  
head. Allows users to be free from any attachments, thus permitting  
the user to perform other tasks. Hence results in convenient and  
efficient access of related information.

DESCRIPTION OF DRAWING(S) - The drawing shows a front view of the  
display/screen for control of automatic scrolling.

screen (12)

activated control regions (306,308,310)

static regions (318,320)

pp; 32 DwgNo 7A/7

Title Terms: AUTOMATIC; SCROLL; CONTROL; COMPUTER; SCREEN; HEAD; MOUNT;  
DISPLAY; ACTIVATE; SCROLL; ACCORD; GAZE; POSITION; ACTIVATE; CONTROL;  
REGION; DEFINE; CONCENTRIC; CIRCLE  
Derwent Class: P85; P86; T01; T06; W04

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International Patent Class (Main): G09G-005/34  
International Patent Class (Additional): G10L-011/00  
File Segment: EPI; EngPI

18/5/10 (Item 6 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014417272 \*\*Image available\*\*  
WPI Acc No: 2002-237975/200229  
Related WPI Acc No: 2000-548076; 2001-069641; 2002-010210; 2002-424498;  
2003-174416

XRPX Acc No: N02-183242

Display driven computer system control and operation assistance for  
visually impaired user , involves tracking movement of head - mounted  
display device, to update displayed portion of virtual desktop

Patent Assignee: ZWERN A L (ZWER-I)

Inventor: ZWERN A L

Number of Countries: 001 Number of Patents: 001

Patent Family:-

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20010035845	A1	20011101	US 95563525	A	19951128	200229 B
			US 99235096	A	19990121	
			US 99373186	A	19990812	
			US 2001895576	A	20010628	

Priority Applications (No Type Date): US 95563525 A 19951128; US 99235096 A  
19990121; US 99373186 A 19990812; US 2001895576 A 20010628

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20010035845	A1		18	G09G-005/00	Cont of application US 95563525 Cont of application US 99235096 Cont of application US 99373186 Cont of patent US 6127990

Abstract (Basic): US 20010035845 A1

NOVELTY - A virtual feedback generated by a computer system is mapped to virtual desktop. A specific portion of the virtual desktop is displayed, and movement of head - mounted display device (26) is tracked based on which the displayed portion of virtual desktop is updated. An audio input is monitored to recognize user commands to control computer system.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for display driven computer system control and operation assistance device.

USE - For assisting a visually impaired user to control and operate a computer system.

ADVANTAGE - Virtual reality display techniques originally developed for military flight simulators are combined with screen magnification techniques to provide a novel and intuitive display interface for visually impaired users. Proper spatial orientation is achieved automatically by directly coupling user's head orientation to the displayed portion of a magnified virtual page. Due to intuitive computer display interface, burden of user is decreased.

DESCRIPTION OF DRAWING(S) - The figure shows a conceptual sketch illustrating operation of a virtual computer monitor.

Head - mounted display device (26)  
pp; 18 DwgNo 3/6

Title Terms: DISPLAY; DRIVE; COMPUTER; SYSTEM; CONTROL; OPERATE; ASSIST;  
VISUAL; IMPAIR; USER; TRACK; MOVEMENT; HEAD; MOUNT; DISPLAY; DEVICE;  
UPDATE; DISPLAY; PORTION; VIRTUAL

Derwent Class: P85; S05; T01; T04; W04; W05

International Patent Class (Main): G09G-005/00

File Segment: EPI; EngPI

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18/5/11 (Item 7 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014288067 \*\*Image available\*\*  
WPI Acc No: 2002-108768/200215  
XRPX Acc No: N02-081066

Input device such as input pen, wireless joystick for computer, has  
optical gyroscope to detect angular velocity of hand movement of operator  
in more than one direction

Patent Assignee: CANON KK (CANO )  
Number of Countries: 001 Number of Patents: 001  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
JP 2001034408 A 20010209 JP 99202951 A 19990716 200215 B

Priority Applications (No Type Date): JP 99202951 A 19990716  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
JP 2001034408 A 6 G06F-003/033

Abstract (Basic): JP 2001034408 A

NOVELTY - An optical gyroscope (1-3) detects angular velocity of  
hand movement of operator in more than one direction. A control  
circuit (54) processes the signal output from gyroscope.

USE - Input device such as input pen, wireless joystick for  
computer used in consumer applications, industrial application and game  
apparatus. Also for computer with head mounted display .

ADVANTAGE - By using optical gyroscope instead of angular velocity  
sensor, object is detected in three axial directions, and hence  
operatively is improved and weight of device is reduced.

DESCRIPTION OF DRAWING(S) - The figure shows the perspective  
diagram of pen type input device.

Optical gyroscope (1-3)  
Control circuit (54)  
pp; 6 DwgNo 1/9

Title Terms: INPUT; DEVICE; INPUT; PEN; WIRELESS; JOYSTICK; COMPUTER;  
OPTICAL; GYRO; DETECT; ANGULAR; VELOCITY; HAND; MOVEMENT; OPERATE; MORE;  
ONE; DIRECTION

Derwent Class: S02; T04  
International Patent Class (Main): G06F-003/033  
International Patent Class (Additional): G01C-019/72  
File Segment: EPI

18/5/12 (Item 8 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014122655 \*\*Image available\*\*  
WPI Acc No: 2001-606867/200169  
Related WPI Acc No: 2001-487810; 2001-496202; 2002-254195; 2002-535660;  
2003-566682  
XRPX Acc No: N01-452977

Information displaying method in computer systems, involves displaying  
widget in response to detection of physical presence in contact with  
touch sensitive input device

Patent Assignee: MICROSOFT CORP (MICT ); BATHICHE S N (BATH-I); CAUTHORN J  
H (CAUT-I); FRY K V (FRYK-I); HINCKLEY K P (HINC-I); LADAS C M (LADA-I);  
VONG W (VONG-I)  
Inventor: BATHICHE S N; CAUTHORN J H; FRY K V; HINCKLEY K P; LADAS C M;  
VONG W  
Number of Countries: 028 Number of Patents: 003  
Patent Family:



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Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20010015718	A1	20010823	US 98100261	P	19980914	200169 B
			US 98152432	A	19980914	
			US 98152434	A	19980914	
			US 98152443	A	19980914	
			US 98200321	A	19981125	
			US 98200325	A	19981125	
			US 2001804496	A	20010313	
EP 1241557	A2	20020918	EP 20025134	A	20020307	200269
JP 2002323945	A	20021108	JP 200269359	A	20020313	200305

Priority Applications (No Type Date): US 98100261 P 19980914; US 98152432 A 19980914; US 98152434 A 19980914; US 98152443 A 19980914; US 98200321 A 19981125; US 98200325 A 19981125; US 2001804496 A 20010313

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20010015718	A1		48	G09G-005/00	Provisional application US 98100261

CIP of application US 98152432  
CIP of application US 98152434  
CIP of application US 98152443  
CIP of application US 98200321  
CIP of application US 98200325  
CIP of patent US 6232957

EP 1241557 A2 E G06F-003/033  
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR  
JP 2002323945 A 44 G06F-003/00

Abstract (Basic): US 20010015718 A1

NOVELTY - Physical presence proximate to or in contact with a touch sensitive input device (43) of computer system, is detected for a predetermined period in which the touch sensitive device is stationary. Display widget providing status information associated with the touch sensitive device, is displayed on the display screen in response to the detection of physical presence.

USE - In computer systems with touch sensitive input devices such as keyboards, touch pads, track balls, game controllers, mouse and joysticks, steering wheel or **headset** which are augmented with touch sensors.

ADVANTAGE - The user is able to simply touch different buttons or other controls to explore their function assignment or status or to obtain other feedback, such feedback allows **user** to better understand the consequences of the action which **activating** the **control**. Also, **user** is able to quickly and casually view status information.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of computer system.

Touch sensitive input device (43)

pp; 48 DwgNo 1/37

Title Terms: INFORMATION; DISPLAY; METHOD; COMPUTER; SYSTEM; DISPLAY; RESPOND; DETECT; PHYSICAL; PRESENCE; CONTACT; TOUCH; SENSITIVE; INPUT; DEVICE

Derwent Class: P85; S02; S03; T01; T04; U21

International Patent Class (Main): G06F-003/00; G06F-003/033; G09G-005/00

International Patent Class (Additional): G06F-003/02

File Segment: EPI; EngPI

18/5/13 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014035929 \*\*Image available\*\*

WPI Acc No: 2001-520142/200157

Related WPI Acc No: 2001-475102; 2001-513197

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XRFX Acc No: N01-385147

Face shield connector for a helmet, has a rack shaped control member to control the degree of up and down movement of the shield by first and second resilient plates, and a minimum opening protrusion

Patent Assignee: HONG JIN CROWN CORP (HONG-N)

Inventor: EOM J S; PARK J H

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6260213	B1	20010717	US 97929386	A	19970915	200157 B
			US 99255105	A	19990222	
			US 99439680	A	19991115	

Priority Applications (No Type Date): US 99439680 A 19991115; US 97929386 A 19970915; US 99255105 A 19990222

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6260213	B1	20	A42B-001/08		CIP of application US 97929386
					CIP of application US 99255105

Abstract (Basic): US 6260213 B1

NOVELTY - The components, mounted on each side of the helmet include a fixation mechanism that has a rotation member, and a second resilient plate which is installed under the first resilient plate. The fixation mechanism has a protrusion and a guide for guiding the rotation of the rotation member. The rotation member (5) has at an adjacent portion with an aperture. An insertion guide portion corresponding to the aperture is formed in a front portion of the aperture. The first resilient plate has protrusion at its rear portion.

DETAILED DESCRIPTION - The shield to be coupled with the fixation mechanism has a connection member for insertion to the rotation member. A protruded guide, and a rack-shaped control member (15) control the degree of rotation of the shield by the first and second resilient plates. The user may lock the shield into place by moving a locker arm that is mounted on the helmet from an open position to a closed position, thereby rotating a member that locks the shield onto the helmet. In an embodiment, a member associated with the face shield moves the locker arm to a closed position as the shield is lowered over the opening in the helmet, to provide automatic locking.

USE - In motorcycle helmets.

ADVANTAGE - Allows easy and reliable opening and closing of the face shield over the front face of the helmet, and convenient assembly of the mechanism on the helmet.

DESCRIPTION OF DRAWING(S) - The figure shows a detailed view of the shield being mounted and partially engaged into the mounting mechanism.

helmet body (1)  
rotation member (5)  
connection member (13)  
rack type control member (15)  
handle (17)  
locking handle (17')  
control protrusion (21)  
pp; 20 DwgNo 9/17

Title Terms: FACE; SHIELD; CONNECT; HELMET; RACK; SHAPE; CONTROL; MEMBER; CONTROL; DEGREE; UP; DOWN; MOVEMENT; SHIELD; FIRST; SECOND; RESILIENT; PLATE; MINIMUM; OPEN; PROTRUDE

Derwent Class: P21

International Patent Class (Main): A42B-001/08

File Segment: EngPI

18/5/14 (Item 10 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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013652242    \*\*Image available\*\*

WPI Acc No: 2001-136454/200114

XRPX Acc No: N01-099239

Aviation audio selector panel has pair of relays swap between selection of pair of transceivers for pilot and copilot head set , upon activation of second user-operated switch

Patent Assignee: PS ENG INC (PSEN-N)

Inventor: SCHEUER M S

Number of Countries: 001    Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6160496	A	20001212	US 96641498	A	19960430	200114    B
			US 99309093	A	19990510	

Priority Applications (No Type Date): US 96641498 A 19960430; US 99309093 A 19990510

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6160496	A		9	G08B-021/00	Cont of application US 96641498
					Cont of patent US 5903227

Abstract (Basic): US 6160496 A

NOVELTY - A control signal generated by a control circuit is dependent on activation of a second user operated switch to allow an user to override an user selection set by a first user operated switch. Upon activating the second user-operated switch, a pair of relays swap between selection of a pair of communication transceivers for pilot head connection and co-pilot head set connection.

DETAILED DESCRIPTION - The audio selector panel (106) has a pair of inputs and a pair of outputs for receiving audio signal of pair of communication transceivers and provides selected microphone audio signal to the transceivers, respectively. The pilot head set connection and copilot headset connection are connected to pilot head set and co-pilot head set . The first relay is coupled to selectively provide audio output signal to the pilot head set connection and co-pilot head set connection, depending on the control signal. The second relay is coupled to selectively provide pilot and co-pilot microphone audio signal to the respective outputs, depending on the control signal. The first user operated switch is configured to allow the user to select the transceivers for connection with pilot and co-pilot headset . The control circuit coupled to the first user-operated switch and the relays, generate the control signal to control the relays, depending on the user selection set by the first user operated switch. The second user operated switch is also coupled to the control circuit which generates control signal.

USE - For interconnecting communication and navigation equipment with pilot, co-pilot and passenger in aviation communication system.

ADVANTAGE - Permits the pilot to switch between communication transceiver, or other communication/navigation devices without having to take his/her hands off the yoke or divert his/her eyes to the audio selector panel.

DESCRIPTION OF DRAWING(S) - The figure shows the diagram of a cockpit.

Audio selector panel (106)

pp; 9 DwgNo 1/4

Title Terms: AVIATION; AUDIO; SELECT; PANEL; PAIR; RELAY; SELECT; PAIR; TRANSCIVER; PILOT; HEAD; SET; ACTIVATE; SECOND; USER; OPERATE; SWITCH

Derwent Class: W05; W06

International Patent Class (Main): G08B-021/00

File Segment: EPI

18/5/15    (Item 11 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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013295150    \*\*Image available\*\*

WPI Acc No: 2000-467085/200041

XRFX Acc No: N00-348622

**Model airplane remote control system comprizes picture receiver on plane passing information to head-up display screen on helmet so head movement controls receiver.**

Patent Assignee: STEINHART R (STEI-I)

Inventor: STEINHART R

Number of Countries: 002    Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No.	Kind	Date	Week
DE 19923105	C1	20000713	DE 1023105	A	19990520	200041 B
US 6315667	B1	20011113	US 2000537900	A	20000328	200225 N

Priority Applications (No Type Date): DE 1023105 A 19990520; US 2000537900 A 20000328

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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DE 19923105	C1		6	A63H-030/00	
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US 6315667	B1			A63F-009/24	
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Abstract (Basic): DE 19923105 C1

NOVELTY - The remote control system consists of a picture receiver (2) in the model plane (1) and a transmitter to pass the picture information to a display (4) within view of the user (5). The receiver is remotely controled by the user by a device (11) fitted to the head (10) and sensors (12) on a device (9) on the head (10) to **control** the receiver (2) by **movement** of the **users** head simply. The display screen (4) is fitted to this device (9), specifically a data **helmet** as worn. The receiver consists of a video camera and the remote controler (14) makes use of sensors (15) on the users arms. Picture data transmission (3) includes two data processors (8), one on plane and one (8) on the user, using mobile telephone or radio link for transmission.

USE - Leisure pursuits, model aircraft.

ADVANTAGE - Model airplane and user are linked by two-way feedback in a single system for instant command and control, giving true hands-on feel to enjoyment.

DESCRIPTION OF DRAWING(S) - The drawing shows the remote control system.

model airplane (1)  
receiver (2)  
data transmission (3)  
display (4)  
user (5)  
data processor (8)  
data **helmet** (9)  
head (10)  
remote control for camera (11)  
sensors (12)  
remote controler (14)  
sensors (15)  
wings. (18)  
pp; 6 DwgNo 1/6

Title Terms: MODEL; REMOTE; CONTROL; SYSTEM; PICTURE; RECEIVE; PLANE; PASS; INFORMATION; HEAD; UP; DISPLAY; SCREEN; **HELMET** ; SO; HEAD; MOVEMENT; CONTROL; RECEIVE

Derwent Class: P36

International Patent Class (Main): A63F-009/24; A63H-030/00

International Patent Class (Additional): A63H-030/04

File Segment: EngPI

18/5/16    (Item 12 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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August 20, 2003

013293510   \*\*Image available\*\*  
WPI Acc No: 2000-465445/200040  
XRPX Acc No: N00-347462

**Relaxation apparatus has relatively hard transmission unit which transmits vibration of vibrating unit throughout the helmet**

Patent Assignee: DELATTE P J (DELA-I); ORGERON E P (ORGE-I)

Inventor: DELATTE P J; ORGERON E P

Number of Countries: 090   Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200037019	A1	20000629	WO 99US30757	A	19991223	200040   B
AU 200027140	A	20000712	AU 200027140	A	19991223	200048
US 6368293	B1	20020409	US 98113748	P	19981223	200227
			US 99471968	A	19991223	

Priority Applications (No Type Date): US 98113748 P 19981223; US 99471968 A 19991223

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200037019	A1	E	23	A61H-001/00	
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Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200027140	A			A61H-001/00	Based on patent WO 200037019
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US 6368293	B1			A61H-001/00	Provisional application US 98113748
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Abstract (Basic): WO 200037019 A1

NOVELTY - A vibrating unit is provided in a **helmet** made of soft material. A relatively hard transmission unit transmits the vibration of vibrating unit, throughout the **helmet**. The vibrating chair having vibrating footrest, has an indentation for receiving the **helmet**. The vibrating footrest vibrates at about same frequency as the **helmet**.

DETAILED DESCRIPTION - The **helmet** with vibrating unit at its inner side is shaped to cover user's eye during use. The power source is arranged remote from the **helmet** for powering the vibrating unit so that user is not exposed to EMF from the power source. An INDEPENDENT CLAIM is also included for relaxing.

USE - Used as relaxation apparatus.

ADVANTAGE - By using strap guides, the shape of the **helmet** is adjusted, by pulling the strap tight around the **helmet**. The blood flow to head is increased, thus relaxation to the **user** is improved. The gripping jaws and **handless** for **moving** the gripping jaws are provided in the **helmet**, for free movement of gripping jaws to desired position over the **helmet**.

DESCRIPTION OF DRAWING(S) - The drawing shows perspective view of **helmet** apparatus.

pp; 23 DwgNo 3/10

Title Terms: RELAX; APPARATUS; RELATIVELY; HARD; TRANSMISSION; UNIT;

TRANSMIT; VIBRATION; VIBRATION; UNIT; **HELMET**

Derwent Class: P33; S05; X27

International Patent Class (Main): A61H-001/00

File Segment: EPI; EngPI

18/5/17   (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013250079   \*\*Image available\*\*  
WPI Acc No: 2000-421962/200036  
XRAM Acc No: C00-127543  
XRPX Acc No: N00-314821

August 20, 2003

**Welding helmet for protecting the face and eyes of a welder includes an electronically controlled shutter that provides an auto-darkening function and fixes shade settings to a preselected level**

Patent Assignee: JACKSON PROD INC (JACK-N)

Inventor: COLE J C; HAMILTON T J; KICKHAM S F; SHAMERY D A

Number of Countries: 086 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6070264	A	20000606	US 99289257	A	19990409	200036 B
WO 200061044	A1	20001019	WO 99US16741	A	19990723	200054
AU 9951262	A	20001114	AU 9951262	A	19990723	200108

Priority Applications (No Type Date): US 99289257 A 19990409

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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US 6070264	A	14	A61F-009/06	
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WO 200061044	A1 E		A61F-009/06	
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Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN  
CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ  
LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK  
SL TJ TM TR TT UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9951262	A		A61F-009/06	Based on patent WO 200061044
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Abstract (Basic): US 6070264 A

NOVELTY - Welding **helmet** has a shutter assembly capable of auto-adjusting a preselected shade level due to an electronic control that senses a predetermined light intensity. An operator input for a user is connected to the control that fixes and holds the preselected level for the shutter assembly suitable for welding.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) a shutter assembly for the welding **helmet**; and

(b) a method of adjusting the shade of an auto-darkening shutter for the welding **helmet**, comprising providing the operator unit to fix the shade levels and disabling the auto-darkening upon selection of the fixed shade.

USE - For protecting the face and eyes of a welder in the field of welding, grinding, and other industrial or manufacturing activity.

ADVANTAGE - The device provides the user, i.e. welder, greater personal control over his **helmet** and shutter assembly with ease and convenience and gets him ready for work without impairment of his vision.

DESCRIPTION OF DRAWING(S) - The figure shows a rear diagrammatic view of the shutter assembly.

Shutter (24)

Fix shade buttons (48, 52)

Indicator (54)

pp; 14 DwgNo 3/7

Title Terms: WELD; **HELMET**; PROTECT; FACE; EYE; WELD; ELECTRONIC; CONTROL; SHUTTER; AUTO; DARK; FUNCTION; FIX; SHADE; SET; PRESELECTED; LEVEL

Derwent Class: M23; P32; P81

International Patent Class (Main): A61F-009/06

International Patent Class (Additional): G02F-001/133

File Segment: CPI; EngPI

18/5/18 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013050379 \*\*Image available\*\*

WPI Acc No: 2000-222233/200019

XRPX Acc No: N00-166336

**Real time remotely controlled robot that is controlled by an operator**

August 20, 2003

reacting to feedback signals originating from robot using a force  
reflecting glove attached to exoskeletal arm fixed to operator's chair

Patent Assignee: FANU AMERICA CORP (FANU-N)

Inventor: AKEEL H A; YEE A G

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6016385	A	20000118	US 97905016	A	19970811	200019 B

Priority Applications (No Type Date): US 97905016 A 19970811

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6016385	A		12	G05B-015/00	

Abstract (Basic): US 6016385 A

NOVELTY - The robot system includes a robot positioned in a working environment and having a robot controller and a device for generating sensation signals that are transmitted to the operator. A communication system connects the robot and operator control center located remote from the robot, and the operator responds with natural movements to the stimulus signals from the robot environment by issuing commands that control the robot.

DETAILED DESCRIPTION - The system includes a mechanical arm joined at one end to the robot and corresponding to one **operator** alum of the **operator** respectively and for duplicating **movement** of the **operator** arm in response to arm **command** signals. The **command** device includes an exoskeletal arm (33) having an upper arm section with an elbow end rotatably attached to an elbow end of a forearm, and a hand rotatably attached to the forearm section. The upper arm section has a shoulder end rotatably attached to a chair (11). A glove (20) having a thumb section and at least one finger section attached to the hand end enables an operator to position himself above the chair with the operator's hand in the glove. A grasping motion signal device is positioned in the glove for generating a grasping motion command signal responsive to a grasping motion generated by encoders in the thumb and finger of the hand end, which are transmitted to the robot hand which is correspondingly controlled. A brake applies a specified resistance force to closing of the finger and thumb of the robot hand. A sensation signal generator is located in the robot hand for generating sensation signals responsive to conditions that stimulate at least one human sense when a human hand is in the robot environment. These signals are converted to sensation command signals which are transmitted to the glove and converted to sensory sensations, e.g. force, pressure, temperature, heat flow, vibration and surface roughness, detectable by the operator's hand in the glove. A pair of video cameras and microphones are located on the robot head and transmit visual and audio information to **helmet** (13) mounted video screens (24) and ear phones so that the operator perceives stereo audio information and three-dimensional visual information to enables the operator to control the robot.

USE - 'Antiphon' robot e.g. for use in clean room such as hospital operating room or semiconductor manufacturing plant where it is desirable to exclude human presence to prevent contamination, or for use in commercial applications such as in a department store or recreational area where the robot is used as an attraction to the public to greet them, direct traffic or hand out leaflets or treats.

ADVANTAGE - Enables **control** of robot by **operator** using **movement** that is natural to the **operator**.

DESCRIPTION OF DRAWING(S) - The drawing shows a command station of the robot controller.

chair (11)

virtual reality **helmet** (13)

backrest (15)

telescoping multi-rotational support base (17)

foot pedals (18)

August 20, 2003

force reflecting glove (20)  
counterweight system (21)  
video screen (24)  
encoder (26)  
exoskeletal arm (33)  
pp; 12 DwgNo 2/12

Title Terms: REAL; TIME; REMOTE; CONTROL; ROBOT; CONTROL; OPERATE; REACT;  
FEEDBACK; SIGNAL; ORIGIN; ROBOT; FORCE; REFLECT; GLOVE; ATTACH; ARM; FIX;  
OPERATE; CHAIR

Derwent Class: T06; U11; W02; W04; X25

International Patent Class (Main): G05B-015/00

File Segment: EPI

18/5/19 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012555216 \*\*Image available\*\*

WPI Acc No: 1999-361322/199931

XRFX Acc No: N99-269340

Display timing control system in head mounted virtual reality display  
device - has controller for controlling video generation time, based  
on tracking of movement of user's head

Patent Assignee: MINOLTA CAMERA KK (MIOC ); ISHIBASHI K (ISHI-I); ISHIKAWA  
T (ISHI-I); KOBAYASHI Y (KOBAYASHI); NAGATA H (NAGATA-I); MINOLTA CO INC (MIOC  
)

Inventor: ISHIBASHI K; ISHIKAWA T; KOBAYASHI Y; NAGATA H

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11133347	A	19990521	JP 97298048	A	19971030	199931 B
US 20020001397	A1	20020103	US 98179770	A	19981027	200207
US 6549641	B2	20030415	US 98179770	A	19981027	200329

Priority Applications (No Type Date): JP 97298048 A 19971030

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11133347	A		13	G02B-027/02	
US 20020001397	A1			G06K-009/00	
US 6549641	B2			G06K-009/00	

Abstract (Basic): JP 11133347 A

NOVELTY - The video generator (8) generates video signal, based on  
detection result of head track unit (5), which detects movements of  
observer's head. Depending on the head track detection result, the  
video generation time is controlled by a controller (7).

USE - In head mounted virtual reality display device for displaying  
computer graphics.

ADVANTAGE - Since the video display is done without time lag, the  
user can observe the video without any unpleasant feeling. Since the  
data are forwarded at high speed by reducing number of image data,  
processing time is reduced by simple control. Video generation time is  
shortened. DESCRIPTION OF DRAWING(S) - The figure shows the arrangement  
of the head mounted display. (5) Head track unit; (7)  
Controller; (8) Video generator.

Dwg.1/12

Title Terms: DISPLAY; TIME; CONTROL; SYSTEM; HEAD; MOUNT; VIRTUAL; DISPLAY;  
DEVICE; CONTROL; CONTROL; VIDEO; GENERATE; TIME; BASED; TRACK; MOVEMENT;  
USER; HEAD

Derwent Class: P81; T01

International Patent Class (Main): G02B-027/02; G06K-009/00

International Patent Class (Additional): G06F-003/033; G06T-015/00

File Segment: EPI; EngPI



August 20, 2003

18/5/20 (Item 16 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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011947596 \*\*Image available\*\*  
WPI Acc No: 1998-364506/199832  
XRPX Acc No: N98-284703

Winter sports helmet - has selected combination or all of outer shell,  
liner and comfort ring including climate control features to regulate  
temperature, air flow and moisture within helmet and front and rear  
adjustable vents for selective circulation of air

Patent Assignee: BURTON CORP (BURT-N); RED CORP (REDR-N)

Inventor: BALL R M; DALLAS E

Number of Countries: 025 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 852917	A1	19980715	EP 97122683	A	19971222	199832 B
US 5915537	A	19990629	US 97780822	A	19970109	199932
EP 852917	B1	20020731	EP 97122683	A	19971222	200257
DE 69714398	E	20020905	DE 614398	A	19971222	200266
			EP 97122683	A	19971222	

Priority Applications (No Type Date): US 97780822 A 19970109

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 852917	A1	E	20	A42B-003/10	
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Designated States (Regional): AL AT BE CH DE DK ES FI FR GB GR IE IT LI

LT LU LV MC MK NL PT RO SE SI

US 5915537	A			A42B-001/06	
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EP 852917	B1	E		A42B-003/10	
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Designated States (Regional): AT CH DE FR IT LI

DE 69714398	E			A42B-003/10	Based on patent EP 852917
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Abstract (Basic): EP 852917 A

The helmet (10) includes an outer shell (12) with an inner lining (14) and a comfort ring (16) contacting the user. The comfort ring having at least one layer for actively controlling the interior climate of the helmet.

The comfort ring is supported by the helmet that overlies a portion of the user. A portion of the comfort ring extends beyond the outer shell and includes a abrasion resistant outer surface to protect underlying portions of the user's head from abrasions. The inner liner that fits within the outer shell of the helmet.

ADVANTAGE - Provides controlled interior climate of the helmet by aiding in removing and preventing moisture from contacting the skin of the user.

Dwg.1/12

Title Terms: WINTER; SPORTS; HELMET ; SELECT; COMBINATION; OUTER; SHELL;  
LINING; COMFORT; RING; CLIMATE; CONTROL; FEATURE; REGULATE; TEMPERATURE;  
AIR; FLOW; MOIST; HELMET ; FRONT; REAR; ADJUST; VENT; SELECT; CIRCULATE;  
AIR

Derwent Class: P21

International Patent Class (Main): A42B-001/06; A42B-003/10

International Patent Class (Additional): A42B-003/28

File Segment: EngPI

18/5/21 (Item 17 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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011914985 \*\*Image available\*\*  
WPI Acc No: 1998-331895/199829  
XRPX Acc No: N98-259088

August 20, 2003

**Gyroscopic amusement apparatus - has three hundred and sixty degree motion in conjunction with virtual reality display**

Patent Assignee: AMUSEMENT TECHNOLOGIES INC (AMUS-N)

Inventor: NAGEL L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5759107	A	19980602	US 96724843	A	19961003	199829 B

Priority Applications (No Type Date): US 96724843 A 19961003

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5759107	A		11	A63G-001/10	

Abstract (Basic): US 5759107 A

The gyroscope apparatus [2] includes an outer ring [4] for three hundred and sixty degree rotational movement about a horizontal axis and an inner tubular ring [6] for three hundred and sixty degree movement about a vertical axis. The rings are mounted on a support cradle [8] with user mounting platform [12] and a passenger seat [30] held in a fixed position in the central ring.

Movement bought about by joystick manipulation is as a direct result of user response to images on the virtual reality headset above the seat. The joystick is electrically connected to electrically controlled hydraulic solenoids, which control the positioning of the rings by hydraulic motor [40] coupled to a gear reducer [42]. Inner ring movement is via electric swivel units [26] and lower drive assembly [24] on the vertical axis. The joystick and monitor are also connected to a CPU, operated by virtual reality software.

ADVANTAGE- combines visual stimulation and motorised movement for enhanced performance.

Dwg.1/11

Title Terms: GYRO; AMUSE; APPARATUS; THREE; HUNDRED; SIXTY; DEGREE; MOTION; CONJUNCTION; VIRTUAL; DISPLAY

Derwent Class: P36; S02; W04

International Patent Class (Main): A63G-001/10

File Segment: EPI; EngPI

18/5/22 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011582702 \*\*Image available\*\*

WPI Acc No: 1997-559183/199751

XRPX Acc No: N97-466007

**Immersion device of user in virtual reality - has area for movement of user interacting with objects in virtual space and uses moved belt to compensate for movement of user on area**

Patent Assignee: LATYPOV N N (LATY-I)

Inventor: LATYPOV N N

Number of Countries: 066 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9742590	A1	19971113	WO 97RU134	A	19970505	199751 B
AU 9730510	A	19971126	AU 9730510	A	19970505	199813
RU 2109337	C1	19980420	RU 96109689	A	19960506	199847

Priority Applications (No Type Date): RU 96109689 A 19960506

Cited Patents: 1.Jnl.Ref; EP 691146; SU 1287900; US 4817950; US 5162029; US 5413545; US 5451194; WO 9666664

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9742590	A1	R	31	G06F-019/00	

Designated States (National): AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE

August 20, 2003

DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN  
MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TR TT UA UG US UZ VN  
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC  
NL PT SE

AU 9730510 A G06F-019/00 Based on patent WO 9742590  
RU 2109337 C1 G06F-019/00

Abstract (Basic): WO 9742590 A

A virtual space is formed by a computer (1), i.e. house walls, trees, machines, animals, people, clouds and is moved by assigned and random manner. The virtual space is formed on the screen of a helmet (2) of a user (3) without edges because of the construction of the helmet, to form an illusion of complete presence of a three-dimensional space. According to position changes of the objects in the space, the user changes position in real and virtual space by physical movement of the arms, legs, head, torso and eyes.

The user makes steps on a transporter (5) with a belt in the form of interacting elements (6) on flexible cables (7) with a drive (9) connected to a control unit (10). During movement of the user only along the X axis, the transporter is connected and a device (12) is used to compensate movement along the Y axis and maintain the user at the initial reference point on the belt. During movement at an angle to the X axis, both drives (9,15) are connected and a sensor (18) fixes the magnitude and direction of movement according to signals from sensors (19-23). The virtual space on the screen is modified according to movement of the user during passage of signals from the sensor (18) to the computer.

USE - Forming of virtual space for entertainment, for training of military personnel and sportsmen and training of specialists, i.e. police.

ADVANTAGE - More complete immersion of user in virtual space.

Dwg.1/8

Title Terms: IMMERSE; DEVICE; USER; VIRTUAL; AREA; MOVEMENT; USER; INTERACT  
; OBJECT; VIRTUAL; SPACE; MOVE; BELT; COMPENSATE; MOVEMENT; USER; AREA

Derwent Class: P36; T01; W04

International Patent Class (Main): G06F-019/00

International Patent Class (Additional): A63B-022/02; A63F-009/22;

A63G-031/02; G06F-161/00; G06F-161-00

File Segment: EPI; EngPI

18/5/23 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011186853 \*\*\*Image available\*\*

WPI Acc No: 1997-164778/199715

XRPX Acc No: N97-135783

Call status visually indicating system for telephone headset - has automatic activation circuit that generates activation signal according to communication status of telephone, manual activation circuit generates activation signal independently of communication status of telephone

Patent Assignee: LARSON D (LARS-I)

Inventor: LARSON D

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5608794	A	19970304	US 95511475	A	19950804	199715 B

Priority Applications (No Type Date): US 95511475 A 19950804

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5608794	A		6	H04M-001/05	

Abstract (Basic): US 5608794 A

August 20, 2003

The system includes a **headset** coupled to the telephone for receiving and sending voice communications. The **headset** is held hands-free onto the head of an **operator**. A **control** circuit switches between a manual **activation** circuit and an automatic activation circuit. The automatic activation circuit generates an activation signal according to a communication status of the telephone. The manual activation circuit generates the activation signal independently of the communication status of the telephone. A visual indicator is attached to the **headset** that activates according to the activation signal from the control circuit.

ADVANTAGE - Identifies activation of status for telephones with hand-free **headsets**.

Dwg.1/4

Title Terms: CALL; STATUS; VISUAL; INDICATE; SYSTEM; TELEPHONE; HEADPHONE; AUTOMATIC; ACTIVATE; CIRCUIT; GENERATE; ACTIVATE; SIGNAL; ACCORD; COMMUNICATE; STATUS; TELEPHONE; MANUAL; ACTIVATE; CIRCUIT; GENERATE; ACTIVATE; SIGNAL; INDEPENDENT; COMMUNICATE; STATUS; TELEPHONE  
Derwent Class: W01; W05  
International Patent Class (Main): H04M-001/05  
File Segment: EPI

18/5/24 (Item 20 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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011132356 \*\*Image available\*\*

WPI Acc No: 1997-110280/199711

XRPX Acc No: N97-091207

**Musical puppet with recorded music player - is positioned in front of user who sings and manipulates puppet movements in synchronism**

Patent Assignee: ONILCO INNOVACION SA (ONIL-N)

Inventor: LLORENS J F; FERRI ILORENS J

Number of Countries: 004 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19612590	A1	19970206	DE 1012590	A	19960329	199711 B
GB 2303798	A	19970305	GB 9613817	A	19960702	199713
FR 2737419	A1	19970207	FR 964765	A	19960411	199715
CA 2169239	A	19970201	CA 2169239	A	19960209	199722

Priority Applications (No Type Date): ES 95U2116 U 19950731

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19612590	A1		5	A63H-003/28	
GB 2303798	A		6	A63H-003/28	
FR 2737419	A1			A63H-003/28	
CA 2169239	A			A63H-003/28	

Abstract (Basic): DE 19612590 A

The musical puppet [1] is produced with flexible arms and legs that allow the size to be adjusted by the user. The feet [3] are in the form of elastic loops [4] for the user to insert his or her feet.

The puppet is positioned directly in front of the user. Mounted on the back of the puppet is a tape cassette player [6]. A microphone **headset** is worn by the user, enabling the user to sing to recorded music, while manipulating the puppet.

USE/ADVANTAGE - Entertainment puppet. Allows user to sing and manipulate puppet.

Dwg.1/2

Title Terms: MUSIC; PUPPET; RECORD; MUSIC; PLAY; POSITION; FRONT; USER; SING; MANIPULATE; PUPPET; MOVEMENT; SYNCHRONISATION  
Derwent Class:- P36; W04  
International Patent Class (Main): A63H-003/28  
International Patent Class (Additional): A63H-003/33; A63H-003/36;

August 20, 2003

G11B-031/00  
File Segment: EPI; EngPI

18/5/25 (Item 21 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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010522366 \*\*Image available\*\*  
WPI Acc No: 1996-019319/199602  
XRPX Acc No: N96-016131

Night vision goggles to user's cranium mounting system - has first and second magnet operable to cause power to be supplied to goggles when latter are in line of sight position and to terminate power to them when they are moved to stowed position

Patent Assignee: VARO INC (VARO-N)  
Inventor: MATTES P B  
Number of Countries: 001 Number of Patents: 001  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
US 5469578 A 19951128 US 9358955 A 19930507 199602 B

Priority Applications (No Type Date): US 9358955 A 19930507

Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
US 5469578 A 8 A42B-001/24

Abstract (Basic): US 5469578 A

The structure includes a helmet-less headgear for securing the goggle mounting structure to user's cranium; and a magnet device for controlling activation of the goggles in the line-of-sight position and deactivating the goggles in the stowed position.

The magnet device includes a first magnet secured to a first side of the goggle mount. A second magnet is secured to a second side of the goggle mount. The first and second magnet are operable to cause power to be supplied to the goggles when the goggles are in the line-of-sight position and to terminate the power to the goggles when the goggles are in the stowed position.

USE/ADVANTAGE - For use by military personnel to facilitate nocturnal activities that occur in places with min light. Allows night vision goggles to be stowed out of way when not in use but without detaching goggles.

Dwg.1/8

Title Terms: NIGHT; VISION; GOGGLES; USER; CRANIUM; MOUNT; SYSTEM; FIRST; SECOND; MAGNET; OPERATE; CAUSE; POWER; SUPPLY; GOGGLES; LATTER; LINE; SIGHT; POSITION; TERMINATE; POWER; MOVE; STOW; POSITION

Derwent Class: P21; P32; W07; X27

International Patent Class (Main): A42B-001/24

International Patent Class (Additional): A61F-009/02

File Segment: EPI; EngPI

18/5/26 (Item 22 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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010255812 \*\*Image available\*\*  
WPI Acc No: 1995-157067/199521  
XRPX Acc No: N95-123740

Portable appts. for telephone directory dialling - recognises spoken name of subscriber and searches memory for number associated with corresp. vocal signature

Patent Assignee: SEYDOUX H (SEYD-I); TALVARD J (TALV-I); TALVARD J P (TALV-I)

Inventor: SEYDOUX H; TALVARD J; TALVARD J P

August 20, 2003

Number of Countries: 002 Number of Patents: 003

Patent Family:-

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 650283	A1	19950426	EP 94402171	A	19940929	199521 B
FR 2711872	A1	19950505	FR 9312583	A	19931021	199523
US 5583919	A	19961210	US 94326790	A	19941020	199704

Priority Applications (No Type Date): FR 9312583 A 19931021

Cited Patents: 2.Jnl.Ref; EP 177405; EP 311414; JP 4021244; JP 53004556; US 4980910

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 650283	A1	F	16	H04M-001/274	
US 5583919	A		14	H04M-001/64	
FR 2711872	A1			H04M-001/27	

Abstract (Basic): EP 650283 A

The appts. (1) has a screen (2) displaying two lines of 16 characters, a microphone (4) into which a subscriber's name is spoken by the user, and a loudspeaker (5). No other components are visible when the cover (6) is closed.

The memory contains a vocal signature associated with each stored number. A speech recognition circuit translates the spoken name into the associated vocal signature. The number is retrieved from the memory and converted into a multifrequency signal suitable for transmission into a telephone handset.

ADVANTAGE - A simple and reliable appts. can be used as easily as a printed directory at any telephone station, performing all operations within 2 or 3 seconds.

Dwg.1/14

Title Terms: PORTABLE; APPARATUS; TELEPHONE; DIRECTORY; DIAL; RECOGNISE; SPEAKER; NAME; SUBSCRIBER; SEARCH; MEMORY; NUMBER; ASSOCIATE; CORRESPOND; VOICE; SIGNATURE

Derwent Class: T01; W01; W04

International Patent Class (Main): H04M-001/27; H04M-001/274; H04M-001/64

International Patent Class (Additional): H04M-001/26

File Segment: EPI

18/5/27 (Item 23 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010105685 \*\*Image available\*\*

WPI Acc No: 1995-006938/199501

XRPX Acc No: N95-005584

Voice responsive toy ejecting projectile, e.g. foam ball or water - has voice operated release mechanism causing projectile to be ejected from nozzle forming part of user head set

Patent Assignee: AMRON DEV INC ALAN (AMRO-N)

Inventor: DUNNE G F

Number of Countries: 019 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9427107	A1	19941124	WO 94US4622	A	19940425	199501 B
AU 9467144	A	19941212	AU 9467144	A	19940425	199521

Priority Applications (No Type Date): US 9359809 A 19930507

Cited Patents: US 3119201; US 3400703; US 3538900; US 4097917; US 5158212

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9427107	A1	E	19	F41B-009/00	

Designated States (National): AU CA JP

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

August 20, 2003

AU 9467144 A F41B-009/00 Based on patent WO 9427107

Abstract (Basic): WO 9427107 A

The toy contains a projectile, discharge port, electrical power source and release mechanism in one or more housings (12,16). The release mechanism is electrically **activated** by a **control** circuit in response to a **user**'s voice. This causes the projectile to be ejected from the discharge port.

The release mechanism may be an electrically operated pump or valve. Air may be pumped to propel a projectile. Or a stream of water may be pumped as a projectile. Pref. at least the discharge port (22), control circuit and associated microphone (26) are enclosed in a housing (16) worn on the head of the user.

ADVANTAGE - High play value. Can be disguised, e.g. incorporated in a **helmet**.

Dwg.1/9

Title Terms: VOICE; RESPOND; TOY; EJECT; PROJECTILE; FOAM; BALL; WATER; VOICE; OPERATE; RELEASE; MECHANISM; CAUSE; PROJECTILE; EJECT; NOZZLE; FORMING; PART; USER; HEAD; SET

Derwent Class: Q79; W04

International Patent Class (Main): F41B-009/00

International Patent Class (Additional): F41B-011/00; F41B-015/00

File Segment: EPI; EngPI

18/5/28 (Item 24 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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007624299 \*\*Image available\*\*

WPI Acc No: 1988-258231/198837

XRFX Acc No: N88-196030

**Optical information transmission system for aircraft pilot - projects information, e.g. contained on photographic transparency, onto periscope mounted on pilot's helmet**

Patent Assignee: MESSERSCHMITT-BOLKOW-BLO (MESR )

Inventor: SCHARFENBE G

Number of Countries: 006 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3712287	C	19880915	DE 3712287	A	19870410	198837 B
EP 286832	A	19881019	EP 88103686	A	19880309	198842
US 4866229	A	19890912	US 88178474	A	19880407	198946

Priority Applications (No Type Date): DE 3712287 A 19870410

Cited Patents: A3...9003; FR 2295442; GB 1527049; No-SR.Pub; US 4028725; US 4048653; US 4465347

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3712287	C		4		
EP 286832	A	G			

Designated States (Regional): CH DE FR GB LI

US 4866229 A 5

Abstract (Basic): DE 3712287 C

The optical information transmitter has a projector (2) that directs the output to a receiver (7) that is mounted on a **helmet** (1). The projector may be used to transmit images from cards or maps. A component is directed bulk by a reflector (8) that is received by a motor unit (5).

The projector is capable of being moved both about the vertical axis and the horizontal axis. As the user moves his head the signal reflected back is used to provide tracking controls of the projector. The user can operate a console while maintaining observation.

USE/ADVANTAGE - Leading vehicle of column or convoy. **Command**

August 20, 2003

station with predictor. Aircraft pilot. Gives max. freedom of movement to operator with only slight increase in wt. and ensure centre of gravity remains at the middle of the head.

2/2

Title Terms: OPTICAL; INFORMATION; TRANSMISSION; SYSTEM; AIRCRAFT; PILOT; PROJECT; INFORMATION; CONTAIN; PHOTOGRAPH; TRANSPARENT; PERISCOPE; MOUNT; PILOT; **HELMET**

Derwent Class: P81; P82; W06; W07

International Patent Class (Additional): G01J-001/20; G02B-027/02;

G03B-021/00

File Segment: EPI; EngPI

18/5/29 (Item 25 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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002132496

WPI Acc No: 1979-F2428B/197924

Personal dust protection helmet with visor - has air deflecting plate and perforated slat above and shutter slide below visor to regulate air flow

Patent Assignee: YARINOVSKII I V (YARI-I)

Inventor: IVANOV G P; YARINOVSKI I V

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 619168	A	19780626				197924 B

Priority Applications (No Type Date): SU 2474306 A 19770414

Abstract (Basic): SU 619168 A

The **helmet** claimed in parent patent 570359 has air duct, face visor (3) and rightangled plate to direct the air along the visor, one plate slat placed with clearance below the visor and the other clear of the outside of the visor.

To regulate air flow, the slat clear below the visor (1) is perforated (4) and fitted with a similarly perforated control shutter (5, 6) above.

Air impinging on slat and shutter breaks into three flows, one to blow over the visor outside, a second deflected towards the users face and the third flow passing through the slat and shutter holes and bypassing the **user** altogether. The shutter is **moved** to **control** the air passage. This has no effect on the air over the visor and this remains constant and operative throughout shutter adjustments.

Title Terms: PERSON; DUST; PROTECT; **HELMET** ; VISOR; AIR; DEFLECT; PLATE; PERFORATION; SLAT; ABOVE; SHUTTER; SLIDE; BELOW; VISOR; REGULATE; AIR; FLOW

Derwent Class: P21

International Patent Class (Additional): A41D-013/00; A42B-001/18;

A42B-003/00

File Segment: EngPI



August 20, 2003

20/5/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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015416815 \*\*Image available\*\*  
WPI Acc No: 2003-478955/200345  
XRPX Acc No: N03-380639

**Tactile and image control apparatus for simulated image guided surgery,**  
**has controller to receive signals and plot path of movement of**  
**catheter and, guide wire according to user manipulation**  
Patent Assignee: KENT RIDGE DIGITAL LABS (KENT-N); TAN TOCK SENG HOSPITAL  
PTE LTD (TANT-N); UNIV SINGAPORE NAT (UYSI-N)  
Inventor: ANG M H; CAI Y; CHEN P; CHUI C; MAK K; WANG Y  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6538634	B1	20030325	US 98215407	A	19981218	200345 B

Priority Applications (No Type Date): US 98215407 A 19981218

Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
US 6538634 B1 27 G09G-005/00

Abstract (Basic): US 6538634 B1

NOVELTY - The apparatus has a positional transducer that produce signals indicating displacement and rotation of catheter (30) and guide wire (32). Controller receives these signals and plots path of catheter and guide wire as it is manipulated by the user. Controller also provides control signals for applying predetermined variable clamping force according to an instantaneous position along the path.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for the **simulation** of image-guided surgery.

USE - Used in simulated image guided surgery.

ADVANTAGE - The apparatus is used to simulate the manual positioning of catheter and guide wire, as well as the haptic forces exerted by the user's hand and fingers in that positioning. The apparatus can also simulate the process of balloon angioplasty including stent deployment.

DESCRIPTION OF DRAWING(S) - The drawing shows a perspective view of a tactile and image control apparatus.

Catheter (30)

Guide wire (32)

pp; 27 DwgNo 1/17

Title Terms: TACTILE; IMAGE; CONTROL; APPARATUS; SIMULATE; IMAGE; GUIDE;  
SURGICAL; CONTROL; RECEIVE; SIGNAL; PLOT; PATH; MOVEMENT; CATHETER; GUIDE  
; WIRE; ACCORD; USER; MANIPULATE

Derwent Class: P85; S05; W04

International Patent Class (Main): G09G-005/00

File Segment: EPI; EngPI

20/5/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014632248 \*\*Image available\*\*  
WPI Acc No: 2002-452952/200248  
XRPX Acc No: N02-357092

**Graphical object display method in object oriented computing environment,**  
**involves forming connection tree through which value of altered**  
**orientation of graphical object is broadcast**

Patent Assignee: ROCKWELL SOFTWARE INC (ROCK-N)  
Inventor: HAMILTON J L; SCHLUSSMAN B D  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

August 20, 2003

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6366293	B1	20020402	US 98163934	A	19980929	200248 B

Priority Applications (No Type Date): US 98163934 A 19980929

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6366293	B1	23	G06T-017/00	

Abstract (Basic): US 6366293 B1

NOVELTY - A connection tree having initial values of graphical elements of a graphical object, is formed. The value of an anchor property of each graphical element is altered corresponding to the change in orientation of the graphical object. The altered value is broadcast through the connection tree for recalculating the orientation of the elements and displaying the object based on the changed position.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for computer system.

USE - For displaying animated or graphical objects in distributed computing environments and object oriented computing environment using computer system (claimed), for applications such as computer simulation programs, mechanical emulation programs, user display or control applications that graphically display moving components of an automated process. Also in industrial automation and other time sensitive applications.

ADVANTAGE - The graphical objects are displayed by operatively connecting graphical elements so that their representations are not distorted after repeated movements. Facilitates easy usage by the system engineers or designers, for providing applications having virtually connected graphical objects which can be moved or manipulated in display device, without relying upon the assistance of computer programmers and specially designed custom software.

DESCRIPTION OF DRAWING(S) - The figure shows the graphical interface screen.

pp; 23 DwgNo 14/15

Title Terms: GRAPHICAL; OBJECT; DISPLAY; METHOD; OBJECT; ORIENT; COMPUTATION; ENVIRONMENT; FORMING; CONNECT; TREE; THROUGH; VALUE; ALTER; ORIENT; GRAPHICAL; OBJECT; BROADCAST

Derwent Class: P85; T01; T06

International Patent Class (Main): G06T-017/00

International Patent Class (Additional): G05B-019/00; G06G-007/48;

G09G-005/00

File Segment: EPI; EngPI

20/5/3 (Item 3 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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013033447 \*\*Image available\*\*

WPI Acc No: 2000-205298/200018

Related WPI Acc No: 1995-067397; 1996-354719; 1997-065593; 1997-154373;

1997-213137; 1997-213154; 1997-298318; 1997-319959; 1998-018744;

1998-145774; 1998-323036; 1998-323039; 1998-348733; 1998-467781;

1998-542230; 1998-595176; 1999-070846; 1999-070860; 1999-347539;

1999-494121; 1999-572340; 2000-329018; 2000-421291; 2000-666768;

2001-031774; 2001-060485; 2001-102211; 2001-399606; 2001-482586;

2001-541454; 2001-607058; 2002-096401; 2002-215415; 2002-507156;

2002-520248; 2002-556159; 2003-038254; 2003-174547; 2003-429130

XRPX Acc No: N00-152790

Force feedback interface device for enhancing computer generated environment interactions

Patent Assignee: IMMERSION CORP (IMME-N)

Inventor: ROSENBERG L B; HASSER C J; SHAHOIAN E J

Number of Countries: 083 Number of Patents: 018

August 20, 2003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9966997	A1	19991229	WO 99US14085	A	19990622	200018	B
DE 29922298	U1	20000302	DE 99U2022298	U	19991220	200018	
AU 9947074	A	20000110	AU 9947074	A	19990622	200025	
GB 2343499	A	20000510	WO 99US14085	A	19990622	200026	
			GB 20003875	A	20000218		
EP 1005690	A1	20000607	EP 99930559	A	19990622	200032	
			WO 99US14085	A	19990622		
US 6088019	A	20000711	US 98103281	A	19980623	200037	
GB 2346952	A	20000823	GB 9929677	A	19991215	200041	
DE 29923332	U1	20001207	DE 99U2023332	U	19990622	200065	
			WO 99US14085	A	19990622		
US 6184868	B1	20010206	US 98156802	A	19980917	200109	
US 20010000663	A1	20010503	US 98156802	A	19980917	200126	
			US 2000741310	A	20001219		
US 6243078	B1	20010605	US 98103281	A	19980623	200133	
			US 98156802	A	19980917		
			US 99253132	A	19990218		
DE 29923933	U1	20010705	DE 99U2023933	U	19990916	200145	
			WO 99US21316	A	19990916		
US 20010019324	A1	20010906	US 98103281	A	19980623	200154	
			US 98156802	A	19980917		
			US 99253132	A	19990218		
			US 2001853453	A	20010510		
US 6353427	B1	20020305	US 98103281	A	19980623	200224	
			US 2000563783	A	20000502		
GB 2343499	B	20020612	WO 99US14085	A	19990622	200239	
			GB 20003875	A	20000218		
US 20020097223	A1	20020725	US 98103281	A	19980623	200254	
			US 2000563783	A	20000502		
			US 200291750	A	20020305		
US 6469692	B2	20021022	US 98103281	A	19980623	200273	
			US 98156802	A	19980917		
			US 99253132	A	19990218		
			US 2001853453	A	20010510		
GB 2346952	B	20030806	GB 9929677	A	19991215	200353	

Priority Applications (No Type Date): US 99253132 A 19990218; US 98103281 A 19980623; US 98156802 A 19980917; US 2000741310 A 20001219; US 2001853453 A 20010510; US 2000563783 A 20000502; US 200291750 A 20020305

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 9966997	A1	E	53	A63F-009/22	
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Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

DE 29922298	U1			G06F-003/00	
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AU 9947074	A			G09G-005/00	Based on patent WO 9966997
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GB 2343499	A			A63F-009/24	Based on patent WO 9966997
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EP 1005690	A1	E		G09G-005/08	Based on patent WO 9966997
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Designated States (Regional): AT BE CH DE DK ES FI FR GR IE IT LI NL PT SE

US 6088019	A			G09G-005/00	
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GB 2346952	A			G06K-011/18	
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DE 29923332	U1			G06F-003/00	Application no. WO 99US14085
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US 6184868	B1			G09G-005/08	
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US 20010000663	A1			G09G-005/00	Cont of application US 98156802
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Cont of patent US 6184868

US 6243078	B1			G09G-005/08	CIP of application US 98103281
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CIP of application US 98156802

DE 29923933	U1			C06F-003/04	Application no. WO 99US21316
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August 20, 2003

US 20010019324 A1		G09G-005/00	CIP of application US 98103281 CIP of application US 98156802 Cont of application US 99253132 CIP of patent US 6088019 CIP of patent US 6184868 Cont of patent US 6243078
US 6353427	B1	G09G-005/00	Cont of application US 98103281 Cont of patent US 6088019
GB 2343499	B	A63F-009/24	Based on patent WO 9966997
US 20020097223 A1		G09G-005/08	Cont of application US 98103281 Cont of application US 2000563783 Cont of patent US 6088019 Cont of patent US 6353427
US 6469692	B2	G09G-005/08	CIP of application US 98103281 CIP of application US 98156802 Cont of application US 99253132 CIP of patent US 6088019 CIP of patent US 6184868 Cont of patent US 6243078
GB 2346952	B	G06K-011/18	

Abstract (Basic): WO 9966997 A1

NOVELTY - The force feedback interface includes a sensor which detects the movement of a user manipulatable object relative to a ground in at least one degree of freedom within a single plane e.g. a mouse, and an actuator which responds to the sensor signals to apply a linear force to the object perpendicular to the plane of object movement, along an axis extending through the object.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for a force feedback mouse, a force feedback pointing device, and a method for providing force feedback in a mouse input device.

USE - For use with input devices e.g. mouse (claimed) or other pointing device (claimed), e.g. stylus, tablet, trackball, steering wheel or joystick, for enhancing user interactions in a computer generated environment e.g. experiencing a simulation or virtual reality, using a computer aided design (CAD), or operating a graphical user interface (GUI).

ADVANTAGE - Enhances the interactions and manipulations in computer generated environments such as displayed graphical environments at low cost using simpler components.

DESCRIPTION OF DRAWING(S) - The drawing shows a block diagram of a system including a host computer and a force feedback interface device.  
pp; 53 DwgNo 1/13

Title Terms: FORCE; FEEDBACK; INTERFACE; DEVICE; ENHANCE; COMPUTER;  
GENERATE; ENVIRONMENT; INTERACT

Derwent Class: P36; P85; T04; W04

International Patent Class (Main): A63F-009/22; A63F-009/24; C06F-003/04;  
G06F-003/00; G06K-011/18; G09G-005/00 ; G09G-005/08

International Patent Class (Additional): G01L-005/22; G05G-009/047;  
G06F-003/033

File Segment: EPI; EngPI

20/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012637060 \*\*Image available\*\*

WPI Acc No: 1999-443164/199937

XRPX Acc No: N99-330439

Input control system for computer generated graphical images in  
interactive computer games

Patent Assignee: FIRST PERSON GAMING INC (FIRS-N)

Inventor: BARNES J C

Number of Countries: 001 Number of Patents: 001

August 20, 2003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5929844	A	19990727	US 96642778	A	19960503	199937 B

Priority Applications (No Type Date): US 96642778 A 19960503

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5929844	A	14	G09G-005/00	

Abstract (Basic): US 5929844 A

NOVELTY - A control sub-unit (14) inputs two axes of acquisition data for linear and orientation characteristic of user's movement and video within a boundary range. Another control sub-unit (16) inputs two more axes of the acquisition data. A driver program integrates the four axes into single data and transmits it to computer to generate graphical images environment.

DETAILED DESCRIPTION - The control sub-units are selected from joysticks, trackballs and force sensitive electronic pads.

USE - To control computer generated graphical images especially in computer games where more than one user interact with the input system.

ADVANTAGE - The simultaneous usage of control sub-units increases the effective interaction control of user, over simulation. The degree of freedom in usage of input system is increased and the user's workload is reduced.

DESCRIPTION OF DRAWING(S) - The figure is an explanatory diagram of the improved input system.

Control sub- units (14,16)

pp; 14 DwgNo 3c/5

Title Terms: INPUT; CONTROL; SYSTEM; COMPUTER; GENERATE; GRAPHICAL; IMAGE; INTERACT; COMPUTER; GAME

Derwent Class: P85; T01; T04

International Patent Class (Main): G09G-005/00

File Segment: EPI; EngPI

20/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012447171 \*\*Image available\*\*

WPI Acc No: 1999-253279/199921

XRPX Acc No: N99-188465

Visual based input device for allowing user to control movement of real or virtual object in 3D environment

Patent Assignee: UNIV YALE (UYYA )

Inventor: HAGER G D; TOYAMA K

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5889505	A	19990330	US 9612761	A	19960304	199921 B
			US 97810269	A	19970303	

Priority Applications (No Type Date): US 9612761 P 19960304; US 97810269 A 19970303

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5889505	A	9	G09G-005/00	Provisional application US 9612761

Abstract (Basic): US 5889505 A

NOVELTY - An imaging device (16) outputs image of a track ball (12) with multiple reference points (30,32), to a processor (20). The processor calculates linear and rotary displacement of track ball and generates a control data.

DETAILED DESCRIPTION - The track ball is suspended in space within an object holder (14), by multiple elastic bands (18), thus enables

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three dimension movement of object. The reference points differs by characteristic such as color, size and shape. The processor calculates linear and rotary displacement from current dimension of object computed from the position of pixel corresponding to center of track ball pixels denoting two reference points, from image output from digital or analog camera.

USE - For allowing user to control movement of real or virtual object such as robotic arms, wheel chairs, transport vehicles in virtual environments such as flight simulators, games, simulated indoor-outdoor tours, planetarium.

ADVANTAGE - Enables user to control movement of real or virtual object in any 3D environment. Provides low cost and intuitive 3D input device which provides quick input of 3D data.

DESCRIPTION OF DRAWING(S) - The figure shows schematic view of input device.

Track ball (12)  
Object holder (14)  
Imaging device (16)  
Elastic bands (18)  
Processor (20)  
Reference points (30,32)  
pp; 9 DwgNo 1/5

Title Terms: VISUAL; BASED; INPUT; DEVICE; ALLOW; USER; CONTROL; MOVEMENT;  
REAL; VIRTUAL; OBJECT; ENVIRONMENT  
Derwent Class: P85; T06; X21; X25  
International Patent Class (Main): G09G-005/00  
International Patent Class (Additional): G05B-015/00; G06K-009/36  
File Segment: EPI; EngPI

20/5/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011728863 \*\*Image available\*\*

WPI Acc No: 1998-145773/199813

XRPX Acc No: N98-115302

Method for providing user directed operation of virtual manipulator - by providing user operable positional input allowing user to move manipulator about virtual environment, user operable actuator changes manipulator from holding to releasing orientation or vice versa

Patent Assignee: PHILIPS ELECTRONICS NV (PHIG ); PHILIPS NORDEN AB (PHIG ); KONINK PHILIPS ELECTRONICS NV (PHIG ); US PHILIPS CORP (PHIG )

Inventor: GALLERY R D; HERON D R; SHAH J K

Number of Countries: 020 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9806023	A2	19980212	WO 97IB806	A	19970701	199813 B
EP 858627	A2	19980819	EP 97926187	A	19970701	199837
			WO 97IB806	A	19970701	
JP 11513163	W	19991109	WO 97IB806	A	19970701	200004
			JP 98507753	A	19970701	
US 6072466	A	20000606	US 97904390	A	19970801	200033
KR 99063940	A	19990726	WO 97IB806	A	19970701	200043
			KR 98702413	A	19980402	

Priority Applications (No Type Date): GB 9616261 A 19960802

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9806023 A2 E 24 G06F-003/00

Designated States (National): JP KR

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

EP 858627 A2 E G06F-003/00 Based on patent WO 9806023

Designated States (Regional): DE FR GB

August 20, 2003

JP 11513163 W 24 G06F-003/023 Based on patent WO 9806023  
US 6072466 A G09G-005/00  
KR 99063940 A G06F-003/00 Based on patent WO 9806023

Abstract (Basic): WO 9806023 A

The method involves providing user operable positional input allowing user to move the manipulator about the virtual environment. An user operable actuator changes the manipulator from a holding to a releasing orientation or vice versa.

Automatic actions on an object are provided by the manipulator when certain predetermined and periodically monitored conditions are true. The conditions are whether or not the manipulator was previously in a holding orientation, the manipulator is then separated from the object; or whether or not it is currently in a holding orientation and whether or not it previously held the object.

USE - For following movements of user's limb and reproduce such movements within virtual environment.

ADVANTAGE - Can manipulate virtual objects modelled in three dimensional environment, with lower processing requirements than existing systems.

Dwg.3/7

Title Terms: METHOD; USER; DIRECT; OPERATE; VIRTUAL; MANIPULATE; USER; OPERATE; POSITION; INPUT; ALLOW; USER; MOVE; MANIPULATE; VIRTUAL; ENVIRONMENT; USER; OPERATE; ACTUATE; CHANGE; MANIPULATE; HOLD; RELEASE; ORIENT; VICE

Derwent Class: P85; T01

International Patent Class (Main): G06F-003/00; G06F-003/023; G09G-005/00

International Patent Class (Additional): G06T-017/40

File Segment: EPI; EngPI

20/5/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011660414 \*\*Image available\*\*

WPI Acc No: 1998-077323/199807

XRPX Acc No: N98-061759

Virtual environment interaction and navigation device - generates and animates representation of body in virtual environment under user direction

Patent Assignee: KONINK PHILIPS ELECTRONICS NV (PHIG ); PHILIPS ELECTRONICS NV (PHIG ); PHILIPS NORDEN AB (PHIG ); US PHILIPS CORP (PHIG )

Inventor: GALLERY R D; HERON D R; SHAH J K

Number of Countries: 019 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9750029	A1	19971231	WO 97IB410	A	19970416	199807 B
EP 846286	A1	19980610	EP 97915632	A	19970416	199827
			WO 97IB410	A	19970416	
US 5982353	A	19991109	US 97881649	A	19970624	199954
JP 11513157	W	19991109	WO 97IB410	A	19970416	200004
			JP 98502575	A	19970416	
EP 846286	B1	20020220	EP 97915632	A	19970416	200214
			WO 97IB410	A	19970416	
DE 69710566	E	20020328	DE 610566	A	19970416	200229
			EP 97915632	A	19970416	
			WO 97IB410	A	19970416	

Priority Applications (No Type Date): GB 9613315 A 19960625

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9750029 A1 E 12 G06F-003/00

Designated States (National): JP

August 20, 2003

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC  
NL PT SE

EP 846286 A1 E G06F-003/00 Based on patent WO 9750029

Designated States (Regional): DE FR GB

US 5982353 A G09G-005/00

JP 11513157 W 15 G06F-003/00 Based on patent WO 9750029

EP 846286 B1 E G06F-003/00 Based on patent WO 9750029

Designated States (Regional): DE FR GB

DE 69710566 E G06F-003/00 Based on patent EP 846286

Based on patent WO 9750029

Abstract (Basic): WO 9750029 A

The **virtual environment** interaction device includes a CPU (12) which generates an image of the environment, and a representation of a user's presence within the environment, based on the data from memories (14,16) and supplied to the user by a **stereoscopic display** (10). The user is provided with a hand-held unit (18) which has a single control button (20).

When the button is not pressed, the user's **movements** of the **control** (18) are replicated by a modelled icon e.g. a virtual hand, within the **virtual environment** to enable interaction. When the button (20) is actuated, the user's **movements** of the **control** device (18) are instead converted to navigational commands shifting the location of the user's virtual presence around the **virtual environment**.

USE - Modelling and interacting with **virtual environment**.

ADVANTAGE - Manipulating modelled virtual body which is not limited by range of motions of user.

Dwg.1/4

Title Terms: VIRTUAL; ENVIRONMENT; INTERACT; NAVIGATION; DEVICE; GENERATE;

REPRESENT; BODY; VIRTUAL; ENVIRONMENT; USER; DIRECTION

Derwent Class: P85; T01

International Patent Class (Main): G06F-003/00; G09G-005/00

International Patent Class (Additional): G06F-003/033; G06T-017/40

File Segment: EPI; EngPI

20/5/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011582725 \*\*Image available\*\*

WPI Acc No: 1997-559206/199751

XRPX Acc No: N97-466030

**Apparatus interacting with operator to control movement in virtual environment - operator's movement in first control zone causes response in virtual environment based on transformation function, operator's movement in second zone causes different response in environment based on second transformation function**

Patent Assignee: UNIV WASHINGTON (UNIW )

Inventor: ATEN J; FURNESS T A; LAMAR M; MANDEVILLE J; PULKKA A K; WELLS M J

Number of Countries: 074 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9742620	A1	19971113	WO 97US7419	A	19970502	199751 B
AU 9733676	A	19971126	AU 9733676	A	19970502	199813

Priority Applications (No Type Date): US 9616954 P 19960506

Cited Patents: US 5283555; US 5314391; US 5367614; US 5414152

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9742620 A1 E 30 G09G-005/00

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU  
CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV  
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ



August 20, 2003

VN

Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GH GR IE IT  
KE LS LU MC MW NL OA PT SD SE SZ UG

AU 9733676 A G09G-005/00 Based on patent WO 9742620

Abstract (Basic): WO 9742620 A

The input apparatus controls movement and measures movement of the operator. It then uses that movement information to control motion of a virtual environment. It includes a surface (20) upon which the operator is positioned, with the surface defining multiple control zones. A sensor generates (22) an output signal, while a processor (18) receives it to determine the current operator position.

Movement of the operator in a first zone causes a first response in the virtual environment based on a transformation function. The movement of the operator within a second zone causes a second response in the environment based on a second transformation function which differs from the first.

USE/ADVANTAGE - Motion control device for robot, vehicle, virtual environment input device. Hands free use, allows motion along multiple axes in multiple body postures. Provides feedback on how user's input affects system, and maintains safe interaction to provide cue of user's real world environment.

Dwg.1/14

Title Terms: APPARATUS; INTERACT; OPERATE; CONTROL; MOVEMENT; VIRTUAL;  
ENVIRONMENT; OPERATE; MOVEMENT; FIRST; CONTROL; ZONE; CAUSE; RESPOND;  
VIRTUAL; ENVIRONMENT; BASED; TRANSFORM; FUNCTION; OPERATE; MOVEMENT;  
SECOND; ZONE; CAUSE; RESPOND; ENVIRONMENT; BASED; SECOND; TRANSFORM;  
FUNCTION

Derwent Class: P85; T06; W04; X22

International Patent Class (Main): G09G-005/00

File Segment: EPI; EngPI

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22/5/1 (Item 1 from file: 347)  
DIALOG(R)File 347:JAPIO  
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04812118 \*\*Image available\*\*  
**STEREOSCOPIC INFORMATION DISPLAY DEVICE FOR A GREAT NUMBER OF PERSONS**

PUB. NO.: 07-104718 [JP 7104718 A]  
PUBLISHED: April 21, 1995 (19950421)  
INVENTOR(s): HIKOSAKA HIDEKI  
APPLICANT(s): MITSUBISHI HEAVY IND LTD [000620] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 05-251289 [JP 93251289]  
FILED: October 07, 1993 (19931007)  
INTL CLASS: [6] G09G-005/00 ; G02B-027/02; G06T-015/00; G09G-005/36; H04N-013/00  
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 29.2 (PRECISION INSTRUMENTS -- Optical Equipment); 44.6 (COMMUNICATION -- Television); 45.9 (INFORMATION PROCESSING -- Other)

#### ABSTRACT

PURPOSE: To provide a **stereoscopic** information display device for a great number of persons by which the **stereoscopic** picture of computer graphic can be simultaneously observed from an arbitrary view point while securing communication with **men** and objects existing around by plural **men**.

CONSTITUTION: In order to solve a problem, by using a **head-mounted display** 01 having a video camera for view point picture, a picture from the actual view point of a **user** is photographed as image information, and after synthesizing the picture with a computer graphic(CG), the resultant is offered to the **user** as visual information thereby the **user** is allowed to simultaneously recognize the CG and actual surrounding conditions. The device is applied to plural persons, these persons are made to enter a chamber in which the wall is made to be mats for image synthesis for facilitating the image synthesis and the picture of **stereoscopic** information by means of the CG in accordance with a view point of an individual person is given to each person.

22/5/2 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014997128 \*\*Image available\*\*  
WPI Acc No: 2003-057643/200305  
Related WPI Acc No: 2002-546082  
XRPX Acc No: N03-044670

**Virtual reality keyboard implementing system includes VR headset which displays VR keyboard having keys pressed appearance, in response to user motion image data received from processor**

Patent Assignee: NATOLI A J F (NATO-I)

Inventor: NATOLI A J F

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020130844	A1	20020919	US 98223948	A	19981231	200305 B
			US 2002144404	A	20020513	

Priority Applications (No Type Date): US 98223948 A 19981231; US 2002144404 A 20020513

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020130844	A1	41	G09G-005/00		Cont of application US 98223948 Cont of patent US 6388657

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Abstract (Basic): US 20020130844 A1

NOVELTY - A VR headset in response to an user image data received from a processor, displays a VR keyboard having one specific appearance. The VR headset in response to the user motion image data received from the processor, displays a VR keyboard having keys pressed appearance.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for interactive virtual reality keyboard providing method.

USE - Virtual reality keyboard implementing system.

ADVANTAGE - Provides interactive virtual reality keyboard and/or keypad for alphanumeric entry without requiring a keyboard and/or keypad and without sacrificing the advantages of a keyboard and/or keypad for inputting a large range of data and/or commands.

DESCRIPTION OF DRAWING(S) - The figure shows a flowchart explaining the virtual reality keyboard implementing process.

pp; 41 DwgNo 1/50

Title Terms: VIRTUAL; KEYBOARD; IMPLEMENT; SYSTEM; HEADPHONE; DISPLAY;

KEYBOARD; KEY; PRESS; APPEAR; RESPOND; USER ; MOTION; IMAGE; DATA;

RECEIVE; PROCESSOR

Derwent Class: P85; T01; T04; U21; W04

International Patent Class (Main): G09G-005/00

File Segment: EPI; EngPI

22/5/3 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014939356 \*\*Image available\*\*

WPI Acc No: 2002-760065/200282

XRPX Acc No: N02-598416

Head mounted display used in virtual environment display system, has several lenses and displays that are centered along center of rotation of user 's eye

Patent Assignee: UNIV JOHNS HOPKINS (UYJO )

Inventor: BROWN L G; MASSOF R W; SHAPIRO M D

Number of Countries: 100 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200286590	A1	20021031	WO 2002US12270	A	20020418	200282 B
US 20020181115	A1	20021205	US 2001839670	A	20010420	200301
US 6529331	B2	20030304	US 2001839670	A	20010420	200320

Priority Applications (No Type Date): US 2001839670 A 20010420

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200286590 A1 E 63 G02B-027/01

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

US 20020181115 A1 G02B-027/14

US 6529331 B2 G02B-027/14

Abstract (Basic): WO 200286590 A1

NOVELTY - Several lenses and displays are centered along the center of rotation of the eye of an user of the heat mounted display. Each of the displays corresponds to at least one of the lenses and is imaged by the corresponding lens. An attached video camera system may be employed for eye tracking purposes.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for virtual environment display system.

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USE - Head mounted display for use in virtual environment display system (claimed) used for entertainment purposes such as for playing video games, for designing, developing, evaluating various building structures and products.

ADVANTAGE - Centering the optical system comprising several lenses and displays on the center of rotation of the eye, allows a full field view and high fidelity visual reduction, without compromising visual resolution.

DESCRIPTION OF DRAWING(S) - The figure shows a front perspective view of the head mounted display.

pp; 63 DwgNo 6/26

Title Terms: HEAD; MOUNT; DISPLAY; VIRTUAL; ENVIRONMENT; DISPLAY; SYSTEM;

LENS; DISPLAY; ROTATING; USER; EYE

Derwent Class: P81; P85; S05; W04

International Patent Class (Main): G02B-027/01; G02B-027/14

International Patent Class (Additional): G02F-001/1335; G09G-005/00

File Segment: EPI; EngPI

22/5/4 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014725378 \*\*Image available\*\*

WPI Acc No: 2002-546082/200258

Related WPI Acc No: 2003-057643

XRPX Acc No: N02-432205

Virtual reality keyboard implementing system for handheld computer, generates VR keyboard having appearance representing depressed VR keys based on finger motion image data output by processor

Patent Assignee: NATOLI A J F (NATO-I)

Inventor: NATOLI A J F

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6388657	B1	20020514	US 9770180	P	19971231	200258 B
			US 98223948	A	19981231	

Priority Applications (No Type Date): US 9770180 P 19971231; US 98223948 A 19981231

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6388657	B1	40	G09G-005/00	Provisional application	US 9770180

Abstract (Basic): US 6388657 B1

NOVELTY - A VR input device generates input signals in response to motion of fingers of a user corresponding to keystrokes. A VR headset generates a VR keyboard having appearance representing depressed VR keys, based on finger motion image data generated by a processor in response to the input signals.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for method of providing interactive virtual reality (VR) keyboard.

USE - For implementing a virtual reality (VR) keyboard for laptop and handheld computer for operating programs remotely, for playing computer games such as STAR TREK, DOOM, HERETIC and ULTIMA III and for controlling appliances and devices such as VCR or thermostat remotely and also for use in low-gravity or zero-gravity environments such as in outer space in space stations, space vehicles, lunar or Mars landing craft or bases, as well as in underwater, in bathyspheres, in air balloons such as high altitude balloons and other environments with high or low ambient pressure such as air pressure and water pressure.

ADVANTAGE - The keyboard is used with the user oriented in any position, including lying down, at any angular position relative to any frame of reference and even upside down. The VR keyboard is used by using the fingers and hands in any comfortable manner. Carpal tunnel syndrome is eliminated, since the user is not required to rest the

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wrists on a physical surface or to orient the arms in any fixed orientation, to actuate the VR keyboard.

DESCRIPTION OF DRAWING(S) - The figure shows a VR keyboard system.

pp; 40 DwgNo 2/50

Title Terms: VIRTUAL; KEYBOARD; IMPLEMENT; SYSTEM; COMPUTER; GENERATE; KEYBOARD; APPEAR; REPRESENT; DEPRESS; KEY; BASED; FINGER; MOTION; IMAGE; DATA; OUTPUT; PROCESSOR

Derwent Class: P85; T01; T04; W04

International Patent Class (Main): G09G-005/00

File Segment: EPI; EngPI

22/5/5 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014677936 \*\*Image available\*\*

WPI Acc No: 2002-498993/200253

Related WPI Acc No: 2003-138943

XRAM Acc No: C02-141323

XRPX Acc No: N02-395012

Augmented reality system for creating augmented reality display, has self-contained breathing apparatus mask, head - mounted display , and motion tracker

Patent Assignee: EBERSOLE J F (EBER-I); FURLONG T J (FURL-I)

Inventor: EBERSOLE J F; FURLONG T J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020039085	A1	20020404	US 2000225343	P	20000815	200253 B
			US 2001927043	A	20010809	

Priority Applications (No Type Date): US 2000225343 P 20000815; US 2001927043 A 20010809

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020039085	A1	16	G09G-005/00	Provisional application	US 2000225343

Abstract (Basic): US 20020039085 A1

NOVELTY - An augmented reality system comprises a self-contained breathing apparatus (SCBA) mask (1); a head - mounted display (2); and a motion tracker (4).

USE - The inventive system is used for creating an augmented reality display. It is used for firefighter or other emergency first responder training or other activities.

ADVANTAGE - The inventive system provides accuracy in real-time, such that a computer can generate virtual images and mix them with image data from the specially mounted camera in which the user sees the virtual and real images mixed in real time. The head-mounted tracker allows the computer to synchronize the virtual and real images, such that the user sees an image being updated correctly with his or her head. The headphones further enhance the virtual/real experience by providing appropriate aural input.

DESCRIPTION OF DRAWING(S) - The figure diagrammatically shows a view of an augmented reality system.

Self-contained breathing apparatus mask (1)

Head - mounted display (2)

Head-mounted camera (3)

Motion tracker (4)

Headphones (5)

pp; 16 DwgNo 1/7

Title Terms: AUGMENT; SYSTEM; DISPLAY; SELF; CONTAIN; BREATH; APPARATUS; MASK; HEAD; MOUNT; DISPLAY; MOTION; TRACK

Derwent Class: A97; P85; T01; T04; W04

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International Patent Class (Main): G09G-005/00  
File Segment: CPI; EPI; EngPI

22/5/6 (Item 5 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014122812 \*\*Image available\*\*  
WPI Acc No: 2001-607024/200169  
XRPX Acc No: N01-453128

Head mounted display for computer games, has sequentially arranged  
primary quarter wavelength plate, plano-concave lens, semi-transmissive  
mirror, secondary quarter wavelength plate and polarization dependent  
mirror

Patent Assignee: KONINK PHILIPS ELECTRONICS NV (PHIG ); US PHILIPS CORP  
(PHIG )

Inventor: ROEST W

Number of Countries: 023 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20010028332	A1	20011011	US 2001821133	A	20010329	200169 B
WO 200175508	A1	20011011	WO 2001EP3361	A	20010322	200169
KR 2002021111	A	20020318	KR 2001715428	A	20011130	200263
EP 1272890	A1	20030108	EP 2001919391	A	20010322	200311
			WO 2001EP3361	A	20010322	

Priority Applications (No Type Date): EP 2000201180 A 20000331

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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US 20010028332	A1	5	G09G-005/00	
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WO 200175508	A1 E	G02B-027/01		
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Designated States (National): JP KR

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU

MC NL PT SE TR

KR 2002021111	A	G02B-027/01		
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EP 1272890	A1 E	G02B-027/01	Based on patent WO 200175508	
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Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI

LU MC NL PT SE TR

Abstract (Basic): US 20010028332 A1

NOVELTY - The optical system includes a primary quarter wavelength plate (103), a plano-concave lens (101), a semi-transmissive concave mirror (105), a secondary quarter wavelength plate (109) and polarization dependent mirror (111) which are arranged sequentially.

USE - For portable information and communication system, computer games, computer simulation .

ADVANTAGE - Viewing angle at which the user observes image is increased by the sequential arrangement. Resolution and magnification factor are enhanced. Since the optical axis of the quarter wavelength plates are transverse to each other, achromatic transmission suppression is enabled and hence the contrast of image is enhanced. Weight of the head mounted display is reduced by using plano-concave lens. The use of semi-transmissive concave mirror having aspherical surface reduces imaging errors such as coma, astigmatism and curvature of field. As quarter wavelength plates are achromatic, color errors are reduced.

DESCRIPTION OF DRAWING(S) - The figure illustrates the components of the head mounted display .

Plano-concave lens (101)

Primary quarter wavelength plate (103)

Semi-transmissive concave mirror (105)

Secondary quarter wavelength plate (109)

Polarization dependent mirror (111)

pp; 5 DwgNo 1/2

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Title Terms: HEAD; MOUNT; DISPLAY; COMPUTER; GAME; SEQUENCE; ARRANGE;  
PRIMARY; QUARTER; WAVELENGTH; PLATE; PLANO; CONCAVE; LENS; SEMI;  
TRANSMISSIVE; MIRROR; SECONDARY; QUARTER; WAVELENGTH; PLATE; POLARISE;  
DEPEND; MIRROR  
Derwent Class:- P81; P85; T04  
International Patent Class (Main): G02B-027/01; G09G-005/00  
File Segment: EPI; EngPI

22/5/7 (Item 6 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013965726 \*\*Image available\*\*  
WPI Acc No: 2001-449940/200148  
XRPX Acc No: N01-332992

Computerized data display system for air traffic control, has head  
mounted display which displays data windows controlled by input  
position control signal and creates binocular virtual screen image

Patent Assignee: HUGHES ELECTRONICS CORP (HUGA )  
Inventor: DAILY M J; HOWARD M D; MARTIN K R; SELIGER R L  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6198462	B1	20010306	US 94323288	A	19941014	200148 B

Priority Applications (No Type Date): US 94323288 A 19941014

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6198462	B1	8	G09G-005/00	

Abstract (Basic): US 6198462 B1

NOVELTY - Data windows (18) displayed on display screen (14) are controlled by inputting position control signal to a computer. The data windows appearing on the display screen of head mounted display (22), create binocular virtual screen image that has a virtual screen size independent of size of display screen.

DETAILED DESCRIPTION - A computer operates under a window operating system for display and control of several data windows (18) on display screens (14) of display device (16). An user controlled input position sensor coupled to computer generates position control signal to selectively change the selected viewing location to the computer. The data windows are displayed in non-overlapping manner on display screens in a spatial relation corresponding to field of view as seen from viewing location selected by providing position control signal as an input to computer.

USE - For air traffic control, heterogeneous database visualization, multimedia database visualization, tactical situation assessment, command and control, business management and visualization, medical information visualization, distributed interactive simulation and complex intelligence data analysis.

ADVANTAGE - Clutter in window based analysis system is reduced. Productivity is increased through a more intuitive display interface. Three dimensional visualization is simplified by using same display interface for two or three dimensional visuals. The visual screen enables more rapid and effective data visualization for complex high data sources.

DESCRIPTION OF DRAWING(S) - The figure shows the virtual screen display.

Display screen (14)  
Display device (16)  
Data windows (18)  
Head mounted display (22)  
pp; 8 DwgNo 2/4

Title Terms: DATA; DISPLAY; SYSTEM; AIR; TRAFFIC; CONTROL; HEAD; MOUNT;

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DISPLAY; DISPLAY; DATA; WINDOW; CONTROL; INPUT; POSITION; CONTROL; SIGNAL  
; BINOCULAR; VIRTUAL; SCREEN; IMAGE  
Derwent Class: P85; T01; T04; W05; W06  
International Patent Class (Main): G09G-005/00  
File Segment: EPI; EngPI

22/5/8 (Item 7 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013279059 \*\*Image available\*\*  
WPI Acc No: 2000-450994/200039  
XRPX Acc No: N00-335694

Head mounted display for virtual reality, video games includes  
aperture mask between image sources to change resolution levels of right  
and left eyepieces

Patent Assignee: KAISER ELECTRO-OPTICS INC (KAIS-N)  
Inventor: FONTAINE J; MALL B J  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6078427	A	20000620	US 98203292	A	19981201	200039 B

Priority Applications (No Type Date): US 98203292 A 19981201  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
US 6078427 A 9 G02B-027/14

Abstract (Basic): US 6078427 A

NOVELTY - The right eyepiece of the head mounted display consists of reflector/combiner lens and a beam splitter to provide imaged and non-imaged views simultaneously through aperture mask. The resolution power right hand side image source is made higher than that of left hand side image source by the aperture mask provided between image sources.

USE - Head mounted display used in night sight or infrared viewing devices, virtual reality, simulation system and video games.

ADVANTAGE - Improves viewing ability by producing aperture mask for changing the view resolution.

DESCRIPTION OF DRAWING(S) - The figure shows the user's perceived view of the composite scene of the left and right viewers.

pp; 9 DwgNo 4C/5

Title Terms: HEAD; MOUNT; DISPLAY; VIRTUAL; VIDEO; GAME; APERTURE; MASK; IMAGE; SOURCE; CHANGE; RESOLUTION; LEVEL; RIGHT; LEFT; EYEPIECE

Derwent Class:- P81; P85; T04; W03; W04; W05; W06  
International Patent Class (Main): G02B-027/14  
International Patent Class (Additional): G02B-009/00; G09G-005/00  
File Segment: EPI; EngPI

22/5/9 (Item 8 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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011011327 \*\*Image available\*\*  
WPI Acc No: 1996-508277/199651  
XRPX Acc No: N96-428259

Display headset e.g. for virtual reality system - has image data processor with collision warning device to indicate alarm condition to user of HMD when one or more of limits on HMD movement is exceeded

Patent Assignee: KONINK PHILIPS ELECTRONICS NV (PHIG ); PHILIPS ELECTRONICS NV (PHIG ); PHILIPS ELECTRONICS UK LTD (PHIG ); US PHILIPS CORP (PHIG ); PHILIPS NORDEN AB (PHIG )  
Inventor: GALLERY R D



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Number of Countries: 019 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2301216	A	19961127	GB 9510614	A	19950525	199651 B
WO 9637798	A1	19961128	WO 961B352	A	19960418	199702
EP 772790	A1	19970514	EP 96908309	A	19960418	199724
			WO 961B352	A	19960418	
JP 10504917	W	19980512	JP 96535525	A	19960418	199829
			WO 961B352	A	19960418	
US 5900849	A	19990504	US 96637253	A	19960424	199925
EP 772790	B1	20020306	EP 96908309	A	19960418	200219
			WO 961B352	A	19960418	
DE 69619618	E	20020411	DE 619618	A	19960418	200232
			EP 96908309	A	19960418	
			WO 961B352	A	19960418	

Priority Applications (No Type Date): GB 9510614 A 19950525

Cited Patents: EP 537945; GB 2266428; US 5373857

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2301216	A		17	G08B-021/00	
WO 9637798	A1 E	18	G02B-027/02		
				Designated States (National): JP	
				Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE	
EP 772790	A1 E		G02B-027/02		Based on patent WO 9637798
				Designated States (Regional): DE FR GB	
JP 10504917	W	17	G02B-027/22		Based on patent WO 9637798
US 5900849	A		G09G-005/00		
EP 772790	B1 E		G02B-027/02		Based on patent WO 9637798
				Designated States (Regional): DE FR GB	
DE 69619618	E		G02B-027/02		Based on patent EP 772790
					Based on patent WO 9637798

Abstract (Basic): GB 2301216 A

The head mounted display (HMD) (10) has a device to warn of nearby objects in the physical environment. A motion detector (30,32) detects positional changes of the HMD, which changes are reflected in changes of a displayed image viewpoint, and a comparator stage (38,40) determines whether the movement takes the user into a 'prohibited' area. If so, a visual and/or audible warning is provided to the user via the HMD.

Pref., the display screens (18) of the HMD include liquid crystal display shutters (20) which are switched to a transparent state in the event of an imminent collision such that the user is not only warned of the danger but also able to see it without having to remove or adjust the HMD.

USE/ADVANTAGE - As graphical user interface for computer systems. Reduces danger to users immersed in virtual environment from their surrounding physical environment.

Dwg.1/3

Title Terms: DISPLAY; HEADPHONE; VIRTUAL; SYSTEM; IMAGE; DATA; PROCESSOR; COLLIDE; WARNING; DEVICE; INDICATE; ALARM; CONDITION; USER; ONE; MORE; LIMIT; MOVEMENT

Index Terms/Additional Words: HEAD; MOUNTED

Derwent Class: P81; P85; W03; W04; W05

International Patent Class (Main): G02B-027/02; G02B-027/22; G08B-021/00; G09G-005/00

International Patent Class (Additional): G02B-027/01; H04N-005/64; H04N-013/00

File Segment: EPI; EngPI

22/5/10 (Item 9 from file: 350)  
DIALOG(R)File 350:Derwent WPIX

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010191210 \*\*Image available\*\*

WPI Acc No: 1995-092464/199513

XRPX Acc No: N95-073091

Image display unit for e.g head - mounted display - has environmental  
image synthesising device for synthesising environmental image around  
input image to increase ambience of input image

Patent Assignee: SHARP KK (SHAF )

Inventor: KOJIMA K; YAMANAKA A

Number of Countries: 004 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 640859	A2	19950301	EP 94306308	A	19940826	199513 B
EP 640859	A3	19960605	EP 94306308	A	19940826	199632
US 5598297	A	19970128	US 94291865	A	19940817	199710
EP 640859	B1	19991013	EP 94306308	A	19940826	199947
DE 69421141	E	19991118	DE 621141	A	19940826	200001
			EP 94306308	A	19940826	

Priority Applications (No Type Date): JP 947455 A 19940127; JP 93211493 A  
19930826

Cited Patents: -SR.Pub; 2.Jnl.Ref; DE 4009947; AJP04033679; AJP60026325;  
AUS 4757378; AUS 5130794

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 640859	A2	E	41	G02B-027/02	
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Designated States (Regional): DE FR GB

DE 69421141	E			G02B-027/02	Based on patent EP 640859
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US 5598297	A		35	G02B-027/22	
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EP 640859	B1	E		G02B-027/02	
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Designated States (Regional): DE FR GB

EP 640859	A3			G02B-027/02	
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Abstract (Basic): EP 640859 A

The image display unit includes a liquid crystal display (24) for displaying a main image at the central part of a visual field, a back light (25) for the display (24) and a slide for displaying an image at the periphery of a main central image. A back light (23) is provided for the slide, and a lens system (21) magnifies an image synthesised from the images.

Displaying an environmental image at the periphery of an image on a display screen in accordance with an observers preference, raises the ambience of the display and increase **user** comfort.

USE/ADVANTAGE - In observing TV programs, video programs, **stereoscopic** images, virtual reality display, monitoring TV games etc. Displays environmental image at periphery of image on display screen to create image having heightened reality and provide increased comfort to eyes.

Title Terms: IMAGE; DISPLAY; UNIT; HEAD; MOUNT; DISPLAY; ENVIRONMENT; IMAGE  
; SYNTHESIS; DEVICE; SYNTHESIS; ENVIRONMENT; IMAGE; INPUT; IMAGE;

INCREASE; AMBIENCE; INPUT; IMAGE

Derwent Class: P81; P85; W03; W04

International Patent Class (Main): G02B-027/02; G02B-027/22

International Patent Class (Additional): G02B-025/00; G02B-027/01;

G09G-005/00

File Segment: EPI; EngPI

22/5/11 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009851026 \*\*Image available\*\*

WPI Acc No: 1994-130882/199416

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Related WPI Acc No: 1994-180570

XRPX Acc No: N94-103071

Look or blink detector incorporated in helmet type display device -  
leads to eyeball, image and projection light using optical path  
composition device which compounds optical path of projection light from  
look-blink detector and optical path projecting image

Patent Assignee: OLYMPUS OPTICAL CO LTD (OLYU )

Inventor: IMAI S; KONUMA O; MOHRI K; OKAMURA T; SHIMADA N; TABATA S;  
TOKUHASHI Y

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 6078247	A	19940318	JP 92224012	A	19920824	199416 B
US 5621424	A	19970415	US 93100970	A	19930803	199721
			US 95390821	A	19950216	
JP 3159538	B2	20010423	JP 92224012	A	19920824	200125

Priority Applications (No Type Date): JP 92224012 A 19920824; JP 92267503 A  
19921006

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 6078247	A		9	H04N-005/64	
US 5621424	A		18	G09G-005/00	Cont of application US 93100970 patent JP 6078247
JP 3159538	B2		8	H04N-005/64	Previous Publ. patent JP 6078247

Abstract (Basic): JP 6078247 A

Dwg.1/12

Title Terms: BLINK; DETECT; INCORPORATE; **HELMET** ; TYPE; DISPLAY; DEVICE;  
LEAD; EYE; IMAGE; PROJECT; LIGHT; OPTICAL; PATH; COMPOSITION; DEVICE;  
COMPOUND; OPTICAL; PATH; PROJECT; LIGHT; BLINK; DETECT; OPTICAL; PATH;  
PROJECT; IMAGE

Index Terms/Additional Words: STEREOSCOPIC

Derwent Class: P85; W03

International Patent Class (Main): G09G-005/00 ; H04N-005/64

File Segment: EPI; EngPI

22/5/12 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009610123

WPI Acc No: 1993-303671/199338

Related WPI Acc No: 1992-268820; 1992-284865; 1993-258987; 1993-273120;

1993-350829; 1994-118632; 1994-167818; 1994-176402; 1994-280096;

1995-043660; 1995-274965; 1995-344735; 1997-402023; 1997-456965;

1998-031499; 1998-270792; 1998-321880; 1999-130598; 2000-440902;

2003-246899; 2003-415468; 2003-554214

XRPX Acc No: N93-233461

Head mounted display e.g. for aircraft pilot and simulation - has  
thin film transistors formed of single crystal silicon each connected to  
an electrode defining a picture element of display

Patent Assignee: KOPIN CORP (KOPI-N)

Inventor: GALE R S; JACOBSEN J; SPITZER M B; GALE R; GALE R P

Number of Countries: 020 Number of Patents: 011

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9318428	A2	19930916	WO 93US2312	A	19930312	199338 B
US 5331149	A	19940719	US 90636602	A	19901231	199428
			US 91643552	A	19910119	
			US 91815684	A	19911231	
			US 92834849	A	19920213	
			US 92851178	A	19920313	
			US 92985285	A	19921204	

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WO 9318428	A3	19940217				199515
EP 725939	A1	19960814	EP 93909455	A	19930312	199637
			WO 93US2312	A	19930312	
US 5583335	A	19961210	US 90636602	A	19901231	199704
			US 91643552	A	19910118	
			US 91815684	A	19911231	
			US 92834849	A	19920213	
			US 92851178	A	19920313	
			US 92985285	A	19921204	
			US 94275777	A	19940715	
			US 95395180	A	19950227	
EP 909972	A2	19990421	EP 93909455	A	19930312	199920
			EP 98119214	A	19930312	
EP 725939	B1	19990526	EP 93909455	A	19930312	199925
			WO 93US2312	A	19930312	
			EP 98119214	A	19930312	
DE 69325110	E	19990701	DE 625110	A	19930312	199932
			EP 93909455	A	19930312	
			WO 93US2312	A	19930312	
US 6043800	A	20000328	US 90636602	A	19901231	200023
			US 91643552	A	19910118	
			US 92823858	A	19920122	
			US 92872297	A	19920422	
			US 92944207	A	19920911	
			US 92971352	A	19921104	
			US 95384237	A	19950206	
			US 95471538	A	19950606	
US 6140980	A	20001031	US 92851178	A	19920313	200057
			US 92874588	A	19920424	
			US 92971352	A	19921104	
			US 92985285	A	19921204	
			WO 93US2312	A	19930312	
			US 95295826	A	19950202	
US 20030117369	A1	20030626	US 92851178	A	19920313	200343
			US 92874588	A	19920424	
			US 92971352	A	19921104	
			US 92985285	A	19921204	
			WO 93US1322	A	19930212	
			WO 93US2312	A	19930312	
			US 95295826	A	19950202	
			US 2000703271	A	20001031	
			US 2002262024	A	20020930	

Priority Applications (No Type Date): WO 93US1322 A 19930212; US 92851178 A 19920313; US 92874588 A 19920424; US 92971352 A 19921104; US 92985285 A 19921204; US 90636602 A 19901231; US 91643552 A 19910119; US 91815684 A 19911231; US 92834849 A 19920213; US 94275777 A 19940715; US 95395180 A 19950227; US 92823858 A 19920122; US 92872297 A 19920422; US 92944207 A 19920911; US 95384237 A 19950206; US 95471538 A 19950606; US 95295826 A 19950202; US 2000703271 A 20001031; US 2002262024 A 20020930

Cited Patents: 5.Jnl.Ref; DE 2715446; EP 408344; FR 2522804; FR 2612351; JP 1259580; JP 54093378; JP 60046019; US 3967253; US 4028725; US 4034401; US 4109145; US 4181405; US 4361384; US 4568159; US 4852988; WO 9104508;

No-SR.Pub

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9318428 A2 E 115 G02B-027/00

Designated States (National): CA JP US

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL

PT SE

US 5331149 A 12 G06M-007/00

CIP of application US 90636602

CIP of application US 91643552

CIP of application US 91815684

CIP of application US 92834849

CIP of application US 92851178

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CIP of patent US 5206749  
CIP of patent US 5258325  
CIP of patent US 5300788  
EP 725939 A1 E G02B-027/00 Based on patent WO 9318428  
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC  
NL PT SE  
US 5583335 A 11 G01V-009/04 CIP of application US 90636602  
CIP of application US 91643552  
CIP of application US 91815684  
CIP of application US 92834849  
CIP of application US 92851178  
Cont of application US 92985285  
Cont of application US 94275777  
CIP of patent US 5206749  
CIP of patent US 5258325  
CIP of patent US 5300788  
CIP of patent US 5317236  
Cont of patent US 5331149  
EP 909972 A2 E G02B-027/01 Div ex application EP 93909455  
Div ex patent EP 725939  
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC  
NL PT SE  
EP 725939 B1 E G02B-027/00 Related to application EP 98119214  
Related to patent EP 909972  
Based on patent WO 9318428  
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC  
NL PT SE  
DE 69325110 E G02B-027/00 Based on patent EP 725939  
Based on patent WO 9318428  
US 6043800 A G09G-005/00 CIP of application US 90636602  
CIP of application US 91643552  
CIP of application US 92823858  
CIP of application US 92872297  
CIP of application US 92944207  
Cont of application US 92971352  
Div ex application US 95384237  
CIP of patent US 5206749  
CIP of patent US 5300788  
CIP of patent US 5317436  
CIP of patent US 5444557  
US 6140980 A G09G-001/06 CIP of application US 92851178  
CIP of application US 92874588  
CIP of application US 92971352  
CIP of application US 92985285  
CIP of patent US 5331149  
CIP of patent US 5376561  
Based on patent WO 9318428  
US 20030117369 A1 G09G-005/00 Cont of application US 92851178  
Cont of application US 92874588  
Cont of application US 92971352  
Cont of application US 92985285  
Cont of application WO 93US1322  
Cont of application WO 93US2312  
Cont of application US 95295826  
Cont of application US 2000703271  
Cont of patent US 5331149  
Cont of patent US 5376561  
Cont of patent US 6140980

Abstract (Basic): WO 9318428 A

The display includes a support frame for positioning on a user's head, mounted with an active matrix display, which may be an LCD, or electroluminescent display, which directs an image emitted from a display surface on to the user's eye and has a number of both row and column address lines together with an array of pixel circuits (25) and

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an array of pixel electrodes. The pixels may be LEDs.

Each pixel circuit is formed in a thin film of single crystal material and is electrically connected to one row address line and one column address line. A lens is positioned between the active matrix display and the user's eye to focus an image from the display on to the user's eye, pref. positioned so that the lens centre axis is less than 1.52cm from the display surface. The display pref. includes a photodetector array e.g. of III-V diodes on the display front panel.

ADVANTAGE - High density active matrix for closeness of display to eye with desired level of resolution.

Dwg.1/37

Title Terms: HEAD; MOUNT; DISPLAY; AIRCRAFT; PILOT; SIMULATE; THIN; FILM; TRANSISTOR; FORMING; SINGLE; CRYSTAL; SILICON; CONNECT; ELECTRODE; DEFINE; PICTURE; ELEMENT; DISPLAY

Derwent Class: P81; P85; U11; U12; U14; W06

International Patent Class (Main): G01V-009/04; G02B-027/00; G02B-027/01; G06M-007/00; G09G-001/06; **G09G-005/00**

International Patent Class (Additional): A61B-003/113; G01R-017/06; G02F-001/136

File Segment: EPI; EngPI